



FERRIS STATE UNIVERSITY

Greetings!

We are pleased that you are interested in applying for the **Bachelor of Science in Heating, Ventilation, Air Conditioning, and Refrigeration Engineering Technology**. The next rotation of courses will begin in August, 2012.

Included with this packet is the schedule of HVACR courses to be delivered online. There are ten upper division courses in this baccalaureate program, two of which are labs that require attendance on the Ferris campus in Big Rapids, Michigan. We will schedule these two lab experiences to be held together for five days (Wednesday through Sunday) during the summer of 2013, and they are typically the first week in August.

To complete the degree, you may need to take additional general education coursework to fulfill Ferris' graduation requirements. These courses are typically available at your local college or online through Ferris.

Application deadline for the HVACR online program is June 1, 2012 (prior to the fall semester of the year in which the next group of students will start their HVACR online courses) and all requested materials (transcripts, forms, etc) must be received by June 21 (the same year). However, due to class group capping and degree popularity, these dates may be moved up; therefore it is extremely important that all documentation and requested material be submitted as soon as possible. We encourage you to send in your application materials (even if you are just thinking of applying) as soon as possible so that your transcripts can be evaluated and your curriculum plan developed. This plan will come from your advisor and will provide strategies for you to complete any additional required general education coursework.

To apply go to www.ferris.edu/online and follow the instructions. To be considered for admission, applicants must first:

- Have completed an associate degree program in refrigeration, heating and air conditioning (or equivalent) from any accredited college or university with a cumulative grade point average of 2.5 or higher.
- Have completed college level intermediate algebra, two semesters of English and a laboratory science course (preferably physics) with a grade of C or better.
- Have computer competency (demonstrated skill with word processing, spreadsheets and PowerPoint). This is extremely important as many of the classes require this skill set. It is a good idea to take a refresher course in this area if you are not proficient.
- Have access to a high-speed (i.e. DSL, Cable) Internet connection. This is mandatory.

In addition to the application, you will need to have official transcripts from all colleges and universities you have attended sent to Ferris State University, 1201 S. State Street, CSS 201, Big Rapids, MI 49307. All transcripts must be submitted even if no credit was earned.

If you need financial aid information, visit www.ferris.edu/online/tuition/financialaid.htm

If you have questions, I encourage you to call us at (800) 562-9130, or (231) 591-2340 if you are outside the U.S. or Canada, or e-mail us at statewide@ferris.edu.

We look forward to working with you as you pursue the completion of your baccalaureate degree.

Sincerely,

Douglas Zentz, HVACR Chair
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FERRIS STATE UNIVERSITY

Bachelor of Science

Heating, Ventilation, Air Conditioning and Refrigeration Engineering Technology

Schedule of Classes for Online Cohort Eleven

Final curriculum for your degree is subject to department changes approved by HVAC faculty

Fall 2012 (August – December)

HVAC 332 Secondary System Select-Design

A study of water and air systems used in commercial and industrial buildings. Course emphasizes system design, equipment and component selection and selected problems and solutions. Instrumentation, testing and balancing will be emphasized for optimum energy conservation and maximum comfort. (3 credit hours)

Spring 2013 (January – May)

HVAC 313 Control Theory & Application

The study of control loop theory related to commercial and industrial comfort, process and safety applications. The course focuses on analog electronic and pneumatic control components and their systems used in new and existing installations. (3 credit hours)

Summer 2013 (May – August)

HVAC 342 Load Calculations and Energy Code

Complete heat loss and heat gain calculations for commercial and industrial buildings will be performed manually and through currently available computer software. Students will layout and design systems and select equipment for maximum energy efficiency. Energy estimating methods will be studied and an analysis of an actual building conducted. Current federal, state and local codes and standards (ASHRAE) will be examined as they apply to HVAC systems. (4 credit hours)

HVAC 333 Secondary System Laboratory (Summer 2013)

A laboratory course containing hands on learning experiences that compliment HVAC 332. HVAC 332 and 333 meet same degree requirements as 331 on campus. *This course provides you with a hands-on competency experience and requires your attendance on the FSU campus in Big Rapids, Michigan for two days. (1 credit hour)*

HVAC 314 Control Laboratory (Summer 2013)

A laboratory course for online students which contains hands on learning experiences that complement HVAC 313. Lab exercises concentrate on control system operation and analysis. HVAC 313 and 314 meet same degree requirements as HVAC 312 on campus. *This course provides you with a hands-on competency experience and requires your attendance on the FSU campus in Big Rapids, Michigan for three days following the HVAC 333 two-day lab. (1 credit hour)*

Fall 2013 (August – December)

HVAC 350 Contracting Issues in HVACR

The study of contracting issues as related to the HVACR industry. The course focuses on plans and specifications, estimating, budget issues,

project management, economic cost analysis and codes and standards, all from the perspective of an HVACR professional. Lab exercises focus on application of contracting issues to a sample project. (4 credit hours)

Spring 2014 (January – May)

HVAC 362 Primary Equipment Selection

The selection, application and layout of state-of-the-art equipment and systems for commercial and industrial buildings. Emphasis will be placed upon the appropriate alternate energy sources with cost analysis and paybacks being performed. (4 credit hours)

Summer 2014 (May – August)

HVAC 415 Direct Digital Control

The study of digital electronic control of HVAC mechanical systems to maximize their operating efficiency in commercial and industrial applications. The layout, programming and operation of the building management system will be emphasized. (4 credit hours)

Fall 2014 (August – December)

HVAC 451 Energy Audit and Analysis

The survey of utility rate structures, billing energy consumption and energy profiling of commercial and industrial buildings. On-site audit projects will report on recommendations to building envelopes, HVACR systems and control systems with regard to payback. Oral and written presentations are a requirement of this senior project course. (4 credit hours)

Spring 2015 (January – May)

HVAC 499 Commercial HVAC System Design

Given building architectural plans, appropriate software, codes and standards and owner’s requirements, students will select appropriate HVAC system, conduct economic analysis, design system and produce working drawings, specifications and control sequences for evaluation. (5 credit hours)

HVAC 393 Summer Internship (As it fits your schedule)

Ten week minimum work experience. Students will gain a variety of commercial and industrial system and energy related experiences to include in part or in whole: new and retrofit system selection and design (including CAD); load calculation and system analysis or problem solving; system balance (testing, adjusting & balancing); system commissioning; control balancing and control work; energy related experience (e.g. energy auditing and payback calculation); estimating, bidding and proposal development; project management. (4 credit hours)

Schedule Changes: Ferris State University makes every effort to adhere to its published schedule; however, the University reserves the right to add, cancel, and/or change scheduled courses or course dates. Up-to-date schedules are available on MyFSU.

Dropping and Withdrawing: Immediately following your decision to drop or withdraw from a class and to avoid receiving an “F” grade in the course, you must contact the College of Professional and Technological Studies at (800) 562-9130, fax (231) 591-3539 or e-mail leclairk@ferris.edu, or clucheyc@ferris.edu to complete an FSU “Subject(s) Drop/Withdrawal Form.”

Tuition Rate: The tuition rate for this program during the 2011-2012 academic year is \$358/credit hour for online classes.

Refund Policy: Refunds are made only in cases of total withdrawal from the University. The refund schedule may change without notice.

<i>Point of Withdrawal Within Semester</i>	<i>Percentage of Refund</i>
On or before the 1 st day of class	100% of tuition
1 st day of class through 10% of semester.....	100% of tuition
11% of semester through 25% of semester.....	50% of tuition
26% of semester through 50% of semester.....	25% of tuition
51% of semester and after	0% of tuition