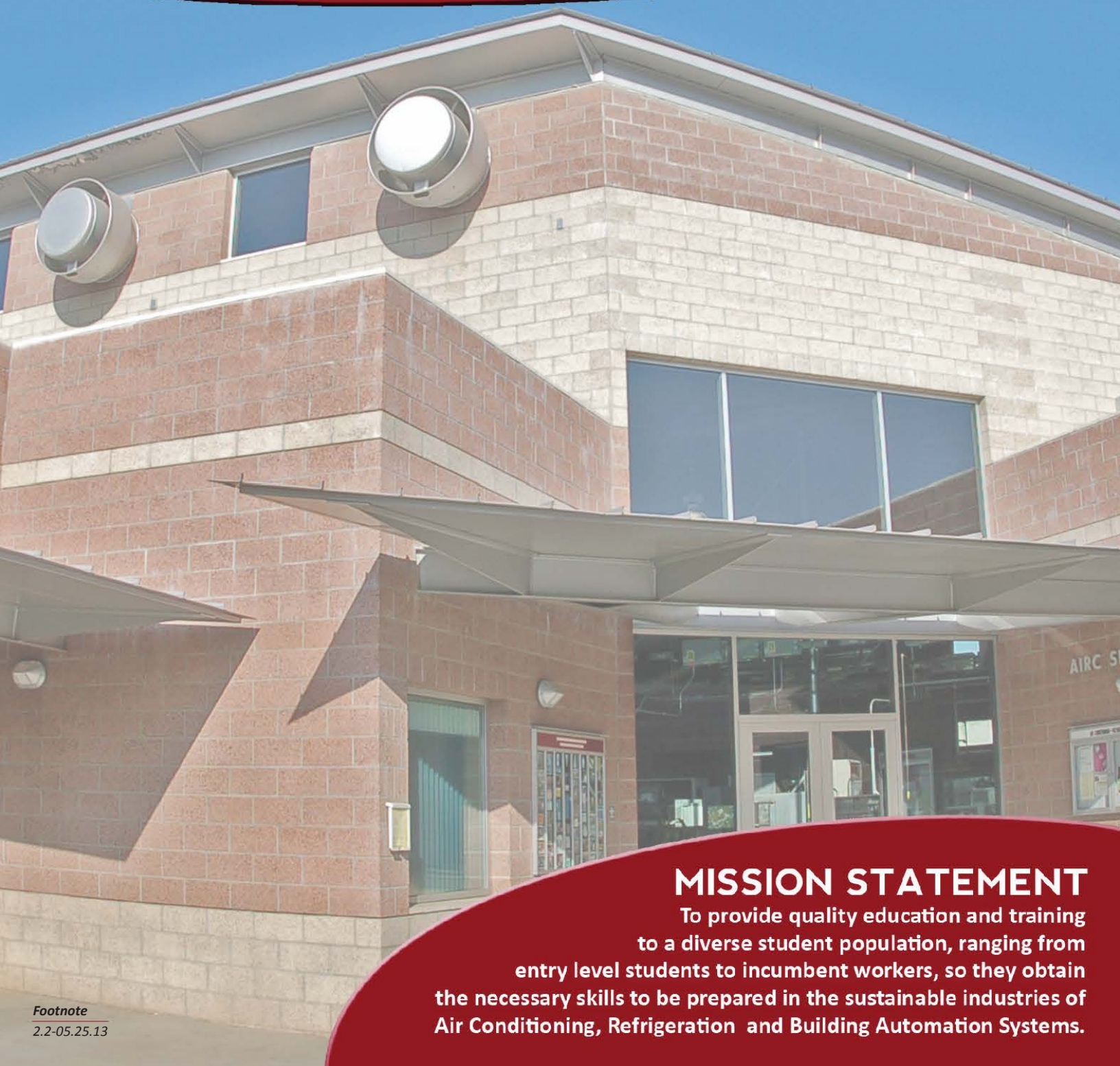


AIR CONDITIONING & REFRIGERATION TECHNOLOGY



STUDENT HANDBOOK



MISSION STATEMENT

To provide quality education and training to a diverse student population, ranging from entry level students to incumbent workers, so they obtain the necessary skills to be prepared in the sustainable industries of Air Conditioning, Refrigeration and Building Automation Systems.

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JOB OUTLOOK

EMPLOYMENT of heating, air conditioning, and refrigeration mechanics and installers is expected to grow 34% from 2010 to 2020, much faster than the average for all occupations. Commercial and residential building construction will drive employment growth as the construction industry continues to recover from the 2007-09 recession. The growing number of sophisticated climate-control systems is also expected to increase demand for qualified HVACR technicians.

Climate-control systems generally need replacement after 10 to 15 years. A large number of recently constructed homes and commercial buildings will need replacement climate-control systems by 2020, spurring demand for technicians.

The growing emphasis on energy efficiency and pollution reduction will require more HVACR technicians as climate-control systems are retrofitted, upgraded, or replaced entirely. Regulations prohibiting the discharge and production of older types of refrigerant pollutants also will result in the need to modify or replace many existing air conditioning systems.



Source: Occupational Outlook Handbook, August 2012, www.bls.gov/oco

SKILL SET

Customer-service skills. Technicians often work in customers' homes or business offices, so it is crucial that they be friendly, polite, and punctual. HVACR repair technicians must sometimes deal with unhappy customers whose heating or air conditioning is not working.

Detail oriented. Technicians must be able to find problems and make precise repairs or adjustments. They must pay attention to details when installing or repairing equipment to make sure it works properly.

Dexterity. Technicians use many hand tools and must have good hand-eye coordination to avoid injury.

Mechanical skills. HVACR technicians install and work on complicated climate-control systems. Workers must understand the components and be able to properly assemble and disassemble them.

Physical strength. Workers may have to lift and support heavy equipment and components, often without help.

Time-management skills. HVACR technicians often have a set number of daily maintenance calls. They should be able to keep a schedule and complete all necessary repairs or tasks.

Troubleshooting skills. Heating, air conditioning, and refrigeration systems involve many intricate parts. To repair malfunctioning systems, technicians must be able to identify problems, often with sophisticated diagnostic equipment.

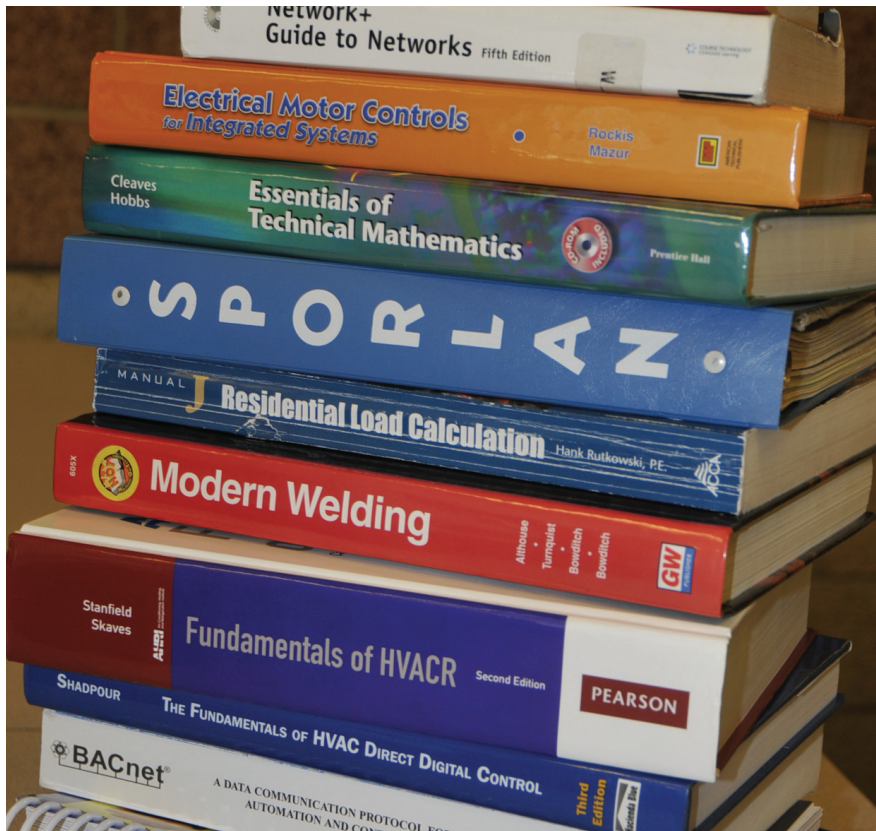
Source: *Occupational Outlook Handbook*, August 2012, www.bls.gov/oco



QUICK FACTS: HEATING, AIR CONDITIONING, AND REFRIGERATION MECHANICS AND INSTALLERS

2010 Median Pay	\$42,530 per year \$20.45 per hour
Entry-Level Education	Postsecondary non-degree award
Work Experience in a Related Occupation	None
On-the-job Training	Long-term on-the-job training
Number of Jobs, 2010	267,800
Job Outlook, 2010-20	34% (Much faster than average)
Employment Change, 2010-20	90,300

AIR CONDITIONING & REFRIGERATION TECHNOLOGY



TEXTBOOKS

The campus bookstore “SacBookRac” is located in Building 9A on the north end of the campus. Students are encouraged to buy books early, especially if they are interested in purchasing used books (first-come/first-served).

The Air Conditioning & Refrigeration and Building Automation Programs require students to have their books purchased by the first week of class or they will fall behind on the assignments.

Required books are listed in each course syllabus.

Information on the required text books can also be found at the AIRC Website at www.mtsac.edu/HVAC.

If students choose to purchase books from an outside source, it is highly recommended they begin the process two weeks in advance.

TUITION & FEES

Enrollment Fee: \$46/unit required of all student residents of California except those who qualify for the Board of Governors’ Fee Waiver (BOGW), a state financial aid program.

Student Activities Fee: \$11/semester (Fall and Spring semesters only) Supports various programs and services on campus, including book grants, cultural programs, speakers, and discount tickets to amusement parks and movie theaters.

Student Representation Fee: 50¢

Materials Fee: Varies. Fee is noted under the class listing at the end of the course description.

Parking Fee: \$40/semester (\$20 w/BOG waiver). Student parking permits are required to use all student parking lots.

Student Health Fee: \$18/semester (\$14 w/BOG waiver). Required of all credit students, including part-time, except those who qualify for a BOG fee waiver.

ADMISSION PROCESS

Students wishing to attend the programs must go online to www.mtsac.edu. On the Mt. SAC home page, go to “Prospective Students” and click on “online application.” You will be prompted to start the application process. There are six enrollment steps. Please allow yourself time to complete all the steps prior to the first day of class. Information will be sent to the student giving a time and date when the student can register for classes. The student will also be instructed to establish an email account with Mt. SAC from which all information from the college will be received.



FOLLOW THESE STEPS

- | | | |
|---|---------------------------|---|
| Step 1 | Apply | (909) 274-4415 |
| The preferred method of application is via the Web at www.mtsac.edu | | |
| Step 2 | Get Assessed | (909) 274-4265 |
| Schedule and take your course placement tests at the Assessment Center. | | |
| Step 3 | Attend Orientation | (909) 274-4380 |
| Attend an orientation session. Any student who is new to Mt. SAC must attend orientation before registering for classes. | | |
| Step 4 | Get Counseling | (909) 274-4380 |
| Receive counseling/advisement if needed. | | |
| Step 5 | Register | my.mtsac.edu |
| Register online; if you need help, stop by the Student Services Center (9B). | | |
| Step 6 | Pay Fees | (909) 274-4960 |
| Pay your fees by credit card online, check by mail, or cash, check, or credit card in person at Bursar’s Office. Drop-for-nonpayment policy is posted on your student portal. | | |
| Step 7 | Followup | my.mtsac.edu |
| Log in to my.mtsac.edu portal for updates on the wait list. Wait listed seats will open up for non payment. | | |



How To Add An Open Class

1. You may add open classes online at *my.mtsac.edu*. Verify your add by printing your schedule/receipt.
2. Once classes start, you must attend the first class meeting to obtain an ADD Authorization Code if the class is no longer available through the registration system. Instructors will add students depending on the number of open spaces in the class.
- 3. You must have your Mt. SAC registration appointment printout of your assigned date and time, along with a picture ID.**
4. You must be eligible (have the appropriate prerequisites) for the class. Prerequisites will be checked by the system at the time you register for the class. If you are blocked from registering for a class and believe that you do possess the appropriate prerequisite, or if you have a question regarding the prerequisite, call (909) 274-4415 for assistance.
5. You must register for all adds prior to the expiration date on the ADD Authorization Code.
6. You MUST have a picture ID to add classes in person at Admissions & Records.

How To Add A Closed Class

1. To add the class, you must attend the first class meeting and obtain an ADD Authorization from the instructor.
- 2. You must have your Mt. SAC student schedule printout and a picture ID.**
3. You must be eligible (have the appropriate prerequisites) for the class. If the course has a required prerequisite, obtain a Proof of Eligibility Form from the appropriate Division Office or Admissions and Records prior to attending the class you wish to add.
4. If you receive an ADD Authorization Code from the instructor, add the class online.
- 5. All Added classes must be completed prior to the expiration date on the ADD Authorization Code.**

AIR CONDITIONING & REFRIGERATION PROGRAM DESCRIPTION

The program is designed to prepare students for employment in the broad field of air conditioning, heating, and refrigeration. It leads to occupations in service, installation, maintenance, design, operations, sales, or distribution. For students interested in a work-based learning experience, a work-study component is also offered in addition to regular classes.



PROGRAM GUIDELINES

The Air Conditioning and Refrigeration Program consists of 10 courses with 31.5 units that are required for a Certificate or Degree (along with General Education requirements for the Degree). The program has day and evening offerings designed to accommodate the needs of students.

ADVISORY COMMITTEES

All courses and certificates are continually reviewed and approved by industry practitioners. Advisory Committees meet at least two times a year to ensure that the program remains current with industry and students' needs.

AIR CONDITIONING & REFRIGERATION TECHNOLOGY ADVISORY COMMITTEE

- | | |
|--|----------------------|
| Alliance Industrial Refrigeration Services | Walnut, CA |
| Aloha Air Conditioning | Whittier, CA |
| Clima-Tech | Chino, CA |
| Emerson Climate Technologies | Temecula, CA |
| Ingersoll Rand Industrial Refrigeration | Rancho Cucamonga, CA |
| McLay Services, Inc. | La Verne, CA |
| Pacific Rim Mechanical | Chino, CA |
| Source Refrigeration | Chino, CA |
| Southwest Refrigeration | Orange, CA |
| Trane | City of Industry, CA |

AIR CONDITIONING & REFRIGERATION CERTIFICATE PROGRAM

Entry level courses, AIRC 10 through AIRC 25, require no background or prior knowledge about the trade. All courses 26 and higher are courses that require completion of entry level courses or appropriate work experience.

Students can complete the program in as little as one year by following a guideline presented below. The morning program offers several courses per semester to allow for completion of the program in one year, some in the morning and some in the afternoon. The student must start the morning program in the Fall semester. Night students can enter the program in either semester or winter intersession.

The following are recommendations for entry level students.

DAY PROGRAM

<u>Fall Semester</u>	<u>13.0 Units</u>	<u>Spring Semester</u>	<u>15.5 Units</u>
AIRC 10 – Technical Mathematics in Air Conditioning & Refrigeration	2.0 Units	AIRC 26 – Gas Heating Fundamentals <i>(1st half of semester)</i>	2.0 Units
AIRC 11 – Welding for Air Conditioning and Refrigeration	2.0 Units	AIRC 30 – Heat Load Calculations	4.0 Units
AIRC 20 – Refrigeration Fundamentals	4.0 Units	AIRC 31 – Commercial Electric for Air Conditioning & Refrigeration	4.0 Units
AIRC 25 – Electrical Fundamentals for Air Conditioning and Refrigeration	5.0 Units	AIRC 32A – Air Properties and Measurements <i>(2nd half of semester)</i>	1.5 Units
<u>Winter Intersession</u>	<u>3.0 Units</u>	AIRC 34 – Advanced Mechanical	4.0 Units
AIRC 12 – Codes and Standards	3.0 Units		

Total Units – 31.5

AIR CONDITIONING & REFRIGERATION EVENING PROGRAM

Evening classes allow a student to complete the program in as little as 2 years; however, due to workload of most evening students, expectations to complete the program usually are 2 ½ to 3 years. Courses are recommended in this order, but advanced courses can be taken as schedules allow.

Fall Semester (First Year)

AIRC 25 – Electrical Fundamentals 5.0 Units
for Air Conditioning & Refrigeration

AIRC 20 – Refrigeration Fundamentals 4.0 Units

Note: Either AIRC 20 or 25 should be taken as entry level courses. If AIRC 20 is taken this semester, AIRC 25 should be taken next semester and vice versa.

Spring Semester (First Year)

AIRC 20 – Refrigeration Fundamentals 4.0 Units

AIRC 25 – Electrical Fundamentals 5.0 Units
for Air Conditioning & Refrigeration

AIRC 12 – Air Conditioning Codes 3.0 Units
and Standards

Winter Intersession

AIRC 10 – Technical Mathematics 2.0 Units
for Air Conditioning & Refrigeration

Fall Semester (Second or Third Year)

AIRC 11 – Welding for 2.0 Units
Air Conditioning and Refrigeration

AIRC 30 – Heat Load Calculations 4.0 Units

AIRC 31 – Commercial Electric 4.0 Units
for Air Conditioning & Refrigeration

AIRC 26 – Gas Heating Fundamentals 2.0 Units
(8 week course - 1st half of semester)

AIRC 32A – Air Properties 1.5 Units
and Measurement
(8 wk course - 2nd half of semester)

Spring Semester (Second or Third Year)

AIRC 11 – Welding for 2.0 Units
Air Conditioning and Refrigeration

AIRC 34 – Advanced Mechanical 4.0 Units
Refrigeration

Total Units – 31.5

BUILDING AUTOMATION SYSTEMS PROGRAM DESCRIPTION



Building automation is defined as a programmed, computerized network of electronic devices that monitor and control the energy consumption of buildings. The intent is to create an intelligent building and reduce energy and maintenance costs. In commercial buildings, most fire-life-safety, lighting, air conditioning, and ventilation systems are automated to manage energy consumption. This has created a strong and sustainable demand for Building Automation Service (BAS) technicians that will continue as long as energy remains a limited commodity.

ADVISORY COMMITTEES

All courses and certificates are continually reviewed and approved by industry practitioners. Advisory Committees meet at least two times a year to ensure that the program remains current with industry and students' needs.

BUILDING AUTOMATION SYSTEMS ADVISORY COMMITTEE

ABM Engineering Services	Los Angeles, CA
Advanced Automated Systems, Inc.	Yorba Linda, CA
Air-Ex Air Conditioning, Inc	Pomona, CA
Athena Engineering, Inc.	San Dimas, CA
CalWest Controls Inc	La Verne, CA
Central Plant Building Automation, Mt. SAC	Walnut, CA
Infinite Control Systems	Chino, CA
Integrity Automated Solutions	Brea, CA
Prime Buildings, Inc.	Corona, CA
Quark Communications, Inc.	Cardiff, CA
Siemens Building Technologies	Cypress, CA
Southern California Trane	City of Industry, CA
Sunbelt Controls	Azusa, CA
Trane and Hussman/Climate Solutions	City of Industry, CA
Western Power Systems	San Dimas, CA

PROGRAM GUIDELINES

The Building Automation Systems Program consists of 10 courses with 36.5 units that are required for a Certificate or Degree (along with General Education requirements for the Degree).

BUILDING AUTOMATION SYSTEMS CERTIFICATE PROGRAM COURSES

AIRC 20 – Refrigeration Fundamentals	4.0 Units
AIRC 25 – Electrical Fundamentals for Air Conditioning and Refrigeration	5.0 Units
AIRC 31 – Commercial Electrical for Air Conditioning and Refrigeration	4.0 Units
AIRC 34 – Advanced Mechanical Refrigeration	4.0 Units
AIRC 61 – Building Automation Fundamentals	2.5 Units
AIRC 65 – Building Automation Networks and Programming	3.0 Units
AIRC 67 – Energy Management	4.0 Units
ELEC 11 – Technical Applications in Microcomputers	3.0 Units
CISW 41 – XML Secure Programming	3.0 Units
CNET 56 – Computer Networks	4.0 Units

Total Units – 36.5



FACILITIES

We have one of the most extensive refrigeration training programs in Southern California. Our facility contains four classrooms, an electrical classroom/lab, a utility classroom, a computer classroom for advanced courses, and a dedicated mechanical lab with a diverse selection of refrigeration and air conditioning equipment. Most of our courses are lecture and demonstrations with related lab exercises. To arrange a tour of the Air Conditioning and Refrigeration and Building Automation facilities, contact the Department Chair for an appointment.

AIR CONDITIONING & REFRIGERATION TECHNOLOGY



TOOLS

The Air Conditioning department uses a tool chip check-out system. Once a student completes a Tool Check Voucher they are assigned 10 identically numbered tool chips. The tool chips will then enable students to check out tools, supplies, etc. from the tool room as needed for classroom assignments at no cost to the student. When they complete the program, students are to return all tool chips. The tool crib inventory is adequate to handle all lab project needs.

STUDENT LEARNING OUTCOMES

Course Outline of Record and Student Learning Outcomes are available at the following web address:

<http://webcms.mtsac.edu/webcms/search.asp> Students with questions about this or other AIRC courses can copy the above web address into the address bar of their browser and hit enter. It will bring up a search tool where students simply enter a course number; i.e. AIRC 32. Students will then see the PDF file for their course.

DRESS CODE

The dress code for students in the HVAC courses is based on safety. Students are required to wear closed-toed shoes, safety glasses in all labs, and gloves any time they are handling refrigerants. Students are not allowed to wear loose clothing any time they are participating in lab projects. Dress codes are documented in the syllabus of each course. Students are responsible for their own safety equipment.



SAFETY

Mt. SAC is committed to a safe and secure college learning environment. The first concern in establishing and implementing emergency procedures is the welfare of the college students and personnel. As a result of this concern, Mt. SAC established a campus safety emergency plan meeting all Government Code Sections 3100—3101 for the State of California. The procedures are posted in each building and made available to students.

FREQUENTLY ASKED QUESTIONS

What is the Building Automation Systems Program (BAS Program)?

Building automation is defined as a programmed, computerized network of electronic devices that monitor and control the energy consumption of buildings. The intent is to create an intelligent building and reduce energy and maintenance costs. In commercial buildings, most fire-life-safety, lighting, air conditioning, and ventilation systems are automated to manage energy consumption. This has created a strong and sustainable demand for Building Automation Service (BAS) technicians that will continue as long as energy remains a limited commodity.

How is the Air Conditioning & Refrigeration Program structured?

The Program is structured for students that may or may not have a background in air conditioning or refrigeration. The course numbers reflect a progression of classes students may follow. For example, beginning or entry level courses start with the 10 series and 20 series up to AIRC 25, while advanced courses are AIRC 26 and higher.

Most courses feature lecture and lab components that require students to complete hands-on lab assignments for completion. Labs include electrical schematic drawings and circuit construction, mechanical labs where students work on operating equipment, manipulate refrigerants and obtain vital signs from the machines, pneumatics labs, and a computer lab where students will design duct systems, calculate heat loads and program a building automation simulation with mockup variable air volume duct systems.

The college uses a Fall and Spring 16-week semester format, with 6-week Winter and Summer Intersessions between the semesters. Consult session schedules for offerings or on the www.mtsac.edu website.

How is the Building Automation Systems program structured?

The program is structured for students to build on their air conditioning knowledge and experience. Air conditioning courses are offered as part of the certificate/degree to allow students to achieve this background. The course numbers reflect a progression of classes a student may follow. For example, beginning entry level courses start with AIRC 20 and AIRC 25 while the advanced courses are AIRC 31 and higher.

Most courses feature lecture and lab components that require students to complete hands-on lab assignments. Labs include electrical circuit design and construction, mechanical design and operation, network strategy and integration, control system development and implementation, programming, and energy management. Students perform practical tasks on electrical and mechanical equipment, and various energy management controls.

What classes does a student complete at Mt. SAC for the BAS Certificate?

Students complete the following classes at Mt. SAC: AIRC 20, AIRC 25, AIRC 31, AIRC 34, AIRC 61, AIRC 65, AIRC 67, ELEC 11, CNET 56, CISW 41.

What courses should I take first if I decide to start the BAS Program?

The courses for the BAS Program are structured in a numerical order. The entry level AIRC courses are AIRC 20 and AIRC 25. Students may register for any of these courses to enter the Program. AIRC 31 through AIRC 67 are considered advanced level courses and recommended advisory prerequisite entry level courses should be completed first. The entry level computer courses ELEC 11, CNET 56 and CISW 41 are considered advanced level courses, and recommended advisory prerequisite entry level courses should be completed first.

What courses should I take first for the Air Conditioning & Refrigeration Program?

The Air Conditioning and Refrigeration Program is structured in a numerical order. The entry level AIRC courses are AIRC 10 through AIRC 25. Students may register for any of these courses to enter the program. AIRC 26 through AIRC 34 are considered advanced level courses and recommended advisory prerequisite entry level courses should be completed first.

FREQUENTLY ASKED QUESTIONS (CONTINUED)

Are there any prerequisites required to enter the AIRC Program?

Students should have good math and reading skills along with mechanical abilities. Math skills should be at a basic Algebra level. AIRC10 will teach those skills and individual help is also available to bring math skills up to the required level. Reading skills needed are for textbook and assignment reading and comprehension including reading of instructions required for homework and lab assignments. Mechanical skills can be developed and good reasoning skills are also needed. The refrigeration technician will need mechanical, reasoning, math and reading skills to succeed.



Do I need a high school diploma or GED to start the program?

Students entering the Air Conditioning and Refrigeration Program do not need a high school diploma or GED. This is a vocational program that leads to employment in the air conditioning and refrigeration industry. However, occupational research shows that the more education a technician has, the higher their earnings potential. There are specific skill levels for reading and math that are required for entry level employment in addition to the ability to communicate clearly with customers and work associates. Mt. SAC has supplemental education programs to help obtain these required skills. Individual help is available through the Learning Assistance Center (LAC) and Adult Basic Education (ABE). Consult the Instructor if additional skills or help is needed.

What is the job outlook for the Air Conditioning, Refrigeration and Building Automation Industries?

The State of California is predicting a need for at least 22,000 new technicians by the year 2014. The industry will need more technicians due to the large amount of baby boomers that will be retiring in the next 5-10 years. Due to energy demands and environmental changes, technicians are faced with an increasing work load. The growth pattern for this industry has not stopped for decades and will only increase in the foreseeable future. Building automation is a relatively new field that has just begun to require a demand for technicians and will only increase in numbers due to energy issues and equipment development utilizing energy management systems. The industry will experience a shortage of technicians in the near future that will allow opportunities for students with strong work habits, consistent academic performance, and solid technical skills.

FREQUENTLY ASKED QUESTIONS (CONTINUED)

What does an Air Conditioning or Refrigeration technician's job include?

Air conditioning or refrigeration technicians often travel to job sites in new construction and service applications to install, maintain service or repair equipment. Many technicians work in the residential and small commercial applications while others work in large commercial or industrial occupations. Numerous stationary positions exist in hospitals, manufacturing plants, and high rise buildings. A clean driving record is critical since technicians are often assigned a company vehicle. Reliable technicians with good technical skills will work many hours of overtime in hotter months. In the instance of repairing a unit that is down in an office environment or supermarket, the system must be fixed immediately and the technician must stay at the job site until the system is up and running again. Air conditioning and refrigeration is required for all aspects of our lives including grocery stores, office buildings, hospitals, schools, homes, stores, and just about all buildings. It also includes refrigeration of warehouses for food and the freezing of food and other applications.

How much can I earn as a technician in these occupations?

The pay rate for air conditioning and refrigeration technicians is based on merit. The more reliable a technician and the more responsibility they take on, the higher their pay rate. Currently, entry level technician earn from \$10 - \$18 per hour. Entry level technicians must know that experience pays and increased skill levels, education, and responsibility will allow their income to increase quickly. Experienced technicians can make as much as \$30 per hour or more plus overtime and benefits. Larger companies tend to pay more with more benefits than smaller companies. Pay and benefits vary among companies. Technicians working in the field can make \$60,000 or more per year or more depending on overtime.

Do I have to take all the courses before I can work in the industry?

No. Recommendations are that students complete about half of the courses in the Program before seeking employment. The entry level courses will lay a foundation for application in employment in the industry. Employers recommend students continue in school to complete the Program which leads to greater success. Many contractors and employers send their students to the Program and will often pay for expenses upon successful completion of a course or the entire Program.

Does the program offer job placement?

Mt. SAC has a job opportunity program that includes jobs in the field. The Program also lists job opportunities as contractors and/or employers call and request candidates. Those opportunities are posted on a board in the lab. The AIRC 34 course includes a project to develop a good resume to help students find employment working with experienced resume writers from the College.

Are there any certifications required to work in the refrigeration industry?

Currently, there are no requirements or certifications required to work in the air conditioning and refrigeration industry. A Certificate from the Mt. SAC Air Conditioning and Refrigeration Program is respected within the industry and helps to further a career. Staff recommends students complete the Program to obtain a Certificate and work in the industry and then return to the College to work on an Associate Degree in Air Conditioning and Refrigeration.

An EPA or Environmental Protection Agency Type 608 Certification is required to handle refrigerants. The Certification allows technicians to purchase, handle and manipulate refrigerants per the Federal Clean Air Act. The Program offers the test at least twice a year for a modest fee. It is not a part of the curriculum. It is a federal offense to work with refrigerants without a Certification except when working with refrigerants in the College Program.

FREQUENTLY ASKED QUESTIONS (CONTINUED)



What credentials can I obtain by taking the Program?

A Certificate from the Air Conditioning and Refrigeration Program at Mt. SAC is widely recognized in Southern California. The Program is the only PAHRA (Partnership for Air Conditioning, Heating, and Refrigeration Accreditation) program in California. It will help in seeking employment and for advancement in a job.

An Associate Degree in Air Conditioning and Refrigeration leads to management and supervisory positions within the industry. Contractors and employers recognize the extra efforts technicians make when completing a degree. Those credentials usually lead to added responsibilities such as lead persons, supervisors or managers.

A Bachelor Degree is available in Air Conditioning and Refrigeration from Ferris University in Big Rapids, Michigan. The program is available on line and requires an Associate Degree as an entry level requirement. This Program usually leads to engineering and design jobs within the industry.

Are all classes offered each semester?

No. AIRC 20 and AIRC 25 are the only courses offered each semester. Most other courses are offered once a year in either the Fall or Spring semesters, or the Winter Intersession. Summer courses are sometimes offered.

Can I visit the facilities before I enroll?

Yes. Use the contact information on the course description handout or from the program information sheet to find the phone numbers of the faculty and staff. All faculty and staff will be glad to set up a time and date to give a tour and answer questions. Staff work every work day from 6:30 am to 3:30 pm and are usually at the facility. Faculty is usually on campus in the mornings or evenings during the semesters and during office hours. During the Intersessions faculty will only be on campus for the courses they teach and their office hours.

Disclaimer

Information provided on this document is accurate at this time and may change. The website is not automatically updated when circumstances change and therefore the information provided was accurate at the time of printing. If any other questions arise, contact staff or faculty for current information.

ACCREDITATION

Mt. San Antonio's Air Conditioning Program is the only Partnership for Air-Conditioning, Heating, Refrigeration Accreditation (PAHRA) certified program in California. PAHRA certification requires a very complete examination to insure a program meets its stringent industry standards of curriculum, facilities, staff, and opportunities available to the student.

ARTICULATION

The Air Conditioning and Refrigeration Program at Mt. SAC articulates its AS Degree with Ferris University in Big Rapids, Michigan. A Bachelor's Degree is available in Air Conditioning and Refrigeration from Ferris University. The program is available on line and requires an Associate Degree as an entry level requirement. This program leads to engineering and design within the industry.

Mt. SAC has articulation agreements with approved high schools, ROPs, and Adult Schools that teach air conditioning and refrigeration. Students attending these programs can earn credit by exam toward Mt. SAC's certificate or degree in Air Conditioning and Refrigeration and Building Automation. Course work from other community college programs or military training is accepted toward the Mt. SAC certificate or degree on a case by case basis. Contact the program's department chair to determine if your school articulates with Mt. SAC's program.



CONTACT INFORMATION

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