



AUSTIN CAREER INSTITUTE, LLC

SCHOOL CATALOG

8711 Burnet Rd
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Austin, TX 78757
512-371-0100
www.austincareerinstitute.com

CATALOG VOLUME 5
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History of ACI

ACI was established in 2012 by a licensed professional engineer, Shahram Jamali, and Texas State University Activate program graduate and computer programmer, Rosha Teimuri. Austin Career Institute recognizes the worth and dignity of all people and is sensitive to the diversity of its student population. All students are encouraged to reach their potential within the framework of their individual needs, interests, and capabilities. ACI believes that education should promote the development of positive self-esteem and the ability to be self-sufficient. ACI provides services that support the students' efforts to succeed academically, vocationally, and personally. These services include individual advising, academic tutoring, and assistance in locating needed social services.

Statement of Legal Control

The owners of the school are Rosha Teimuri and Shahram Jamali.
Austin Career Institute, LLC

Approvals

ACI is approved by Texas Workforce Commission Career Schools and Colleges, and a vendor to Texas Workforce Solutions and the US Department of Veterans Affairs.

ACI is a Candidate for Accreditation by the Commission of the Council on Occupational Education.

Council on Occupational Education
7840 Roswell Road, Building 300, Suite 325
Atlanta, GA 30350
Telephone: 770-396-3898 / FAX: 770-396-3790, www.council.org

Mission Statement

To lift low income individuals, Veterans, displaced or laid off workers and New Americans into better paying, in demand careers through quality, short-term education while simultaneously filling industry labor shortages, reducing the amount of government dependency, and strengthening the US Economy.

Vision Statement

Transforming workforce challenges into opportunities through innovative education and collaborative partnerships with leading community service providers, enabling upward mobility.

Institutional Learning Outcomes

- Educate and develop skilled employees who can obtain employment and earn a living wage within the trades industry.
- Utilize innovative methods to help train, fund, and employ our students and graduates.

Administrative Staff and Faculty

Shahram (Shawn) Jamali is the Campus Director, Director of Education, Substitute Instructor, and Distance Instructor. Mr. Jamali holds a BS in Mechanical Engineering from UT Austin specializing in HVAC-R systems and mechanical systems design. He also holds Professional Engineering (PE) and a Mechanical Contracting License in the State of Texas. He has twenty-four years of combined experience as a MEP Engineer and as an HVAC contractor. Shawn also has experience running a postsecondary school. He has served as a Campus Director for years, with four years of experience in Admissions and three years in Career Services. He is bilingual in Farsi and English.

The CFO and CTO is Rosha Teimuri. Rosha Teimuri is a Texas State University Activate program graduate and has a BS in Computer Science. She has seventeen years of combined experience as CFO, CTO, and programmer/analyst, as well as four years of experience in Financial Aid. She is bilingual in Farsi and English.

Amanda Pincock is the Director of Career Services and Community Outreach Liaison. She is a Returned Peace Corps Volunteer, has a BA in Education, and an MA in Applied Linguistics with a focus on Adult Literacy. She has more than twenty years of experience as an educator and has worked extensively with immigrant and refugee populations overseas and in the US. She is bilingual in English and French.

The newest member of the team, Nadine Wong, is well qualified for her role as Admissions Representative and Registrar. She is bilingual in English and Spanish, which helps facilitate communication between Spanish speaking students and staff members. Having a background as a Legal Aide, she recognizes the importance of maintaining the privacy of students. She is currently an Honors Student pursuing a Bachelors of Business Administration at the McCombs School of Business at The University of Texas at Austin. Her resume is included as Exhibit 8.11.

Faculty (full-time and part-time listed separately) with degrees held and the conferring institution

1. Shahram Jamali – Part Time
HVAC-R
Mechanical Engineer, UT, Austin
20 years related work experience

2. Michael Hastings – Part Time
HVAC-R
AAS Texas State Technical Institute, Waco, Texas.
30 years related work experience

3. Agustin Wong – Part Time
HVAC-R
HVAC-R Austin Career Institute Program, Austin, Texas
20 years related work experience

Facilities, Equipment and Hours of Operation

The school is about 1,250 square feet with two lab/classroom combos, one office and one reception area. The classroom has desks, chairs, a white board, a projector and the following lab equipment:

Equipment	Equipment: Student Ratio
Heat Pump system variable speed on cart	1:10
Heat pump 3 speed on cart	1:10
Gas heat HVAC system variable speed on cart	1:10
Gas heat HVAC system 3 speed on cart	1:10
System diagram poster	1:10
Ice Make	1:10
Freezer wiring board	1:10
Gas heat HVAC wiring board	1:10
Heat pump wiring board	1:10
Torch sets	1:10
Vacuum pumps	1:10
Evacuation pumps	1:10
Evacuation tanks	1:10
Tool boxes and tools	1:10
Lockout/tagout devices	1:10
Basic electrical circuits	1:10
Meters (including Analog meter, Multimeter, Voltmeter, Clamp-on ammeter, Ohmmeter, Continuity Tester, and Voltage tester)	1:10
Panelboard	1:10
Relays	1:10
Transformers	1:10
Motors	1:10
Various motor switches	1:10
Thermostats	1:10

All equipment used for instruction is owned by ACI.

Hours of Operation and Technical Assistance

ACI holds classes from 6:00am to 10:00pm Monday through Friday, and from 7:30am to 6:30pm on weekends (excluding holidays). Technical assistance for students attending online classes is available 10:00am to 6:00pm Monday through Thursday and 10:00am to 4:00pm on Fridays. Our administrative office hours are Monday through Friday 9:00am to 5:00pm and on Saturdays from 10:00am to 5:00pm.

Program Descriptions

For licensing and criminal background requirements for student's chosen field of study the student has visited his or her desired state's licensing boards. For example for HVAC and HVAC-R please visit <https://www.license.state.tx.us/>.

Residential Heating, Ventilation, & Air Conditioning Certificate Program - HVAC

340 clock-hours, 4.5 months (18 weeks, excluding holidays).

Program Objectives:

- Identify components of residential heating, ventilation and air conditioning systems
- Define EPA requirements related to residential HVAC systems
- Describe the safety equipment used when installing or maintaining residential HVAC systems
- Solve problems using basic algebra and geometry related to the measurement of lines, area, volume, weights, angles, pressure, vacuum, and temperature
- Explain concepts of heat transfer and air flow measurement
- Interpret wiring diagrams, blueprints, and other industry-related schematics
- Identify types of tubing and fittings used in the HVAC/R industry and how they are mechanically joined
- Discuss principles of condensation, evaporation and compression as they relate to refrigeration
- Demonstrate use of equipment used to install or maintain residential HVAC systems
- Demonstrate the troubleshooting, maintenance and installation of residential HVAC systems
- Use industry paperwork and recordkeeping methods
- Define customer service and identify work habits that contribute to success on the job
- Interworking of evaporator, its behavior during normal operation of an HVAC system, diagnosis of abnormal operation and repairing of this component
- Interworking of refrigerant metering device, its behavior during normal operation of a HVAC system, diagnosis of abnormal operation and repairing of this component.
- Interworking of condenser, its behavior during normal operation of a HVAC system, diagnosis of abnormal operation and repairing of this component
- Interworking of compressor, its behavior during normal operation of a HVAC system, diagnosis of abnormal operation and repairing of this component

- Interworking of electrical system for residential HVAC systems, its behavior during normal operation of an HVAC system, diagnosis of abnormal operation and repairing of this component
- Interworking of gas heat and heat pump systems, their behavior during normal operation of an HVAC system, diagnosis of abnormal operation and repairing of this component

Graduates of this program will find entry level positions in the residential HVAC industry. The program is comprised of three courses. All courses are independent of each other and can be taken without prerequisite.

Blended Full Time Residential Heating, Ventilation And Air Conditioning Program									
Module	Total Clock Hours	Weeks	Lab Hours Per Week	Total Lab Hours	Lab Semester Credit Hrs.	Online Hours Per Week	Total Online Hours	Online Semester Credit Hrs.	Total Module Hrs.
CRT 102-Refrigeration	110	5.5	10.25	55	1.5	9.75	53	3.5	5
CRT 103-Electrical & Heating	120	6	10.25	61	2.0	9.75	58	3.5	5.5
CRT 104-Systems & Components	115	5.75	10.25	58	1.5	9.75	55	3.5	5
								Total Semester Hrs.	15.5
								Total Clock Hrs.	340

Residential & Commercial HVAC & Commercial Refrigeration Certificate Program HVAC - R

720 clock-hours, 9 months (36 weeks)

Program Objectives:

- Use American National Standards Institute (ANSI) hand signals
- Identify components of residential and commercial heating, ventilation and air conditioning systems
- Describe the safety equipment used when installing or maintaining residential and commercial HVAC systems
- Solve problems using basic algebra and geometry related to the measurement of lines, area, volume, weights, angles, pressure, vacuum, and temperature
- Explain concepts of heat transfer and air flow measurement
- Interpret wiring diagrams, blueprints, and other industry-related schematics
- Identify types of tubing and fittings used in the HVAC industry and how they are mechanically joined
- Discuss principles of condensation, evaporation and compression as they relate to refrigeration
- Demonstrate use of equipment used to install or maintain residential HVAC systems
- Demonstrate the troubleshooting, maintenance and installation of residential HVAC systems
- Use industry paperwork and recordkeeping methods
- Define customer service and identify work habits that contribute to success on the job
- Understand interworking of evaporator, its behavior during normal operation of a HVAC system, diagnosis of abnormal operation and repairing of this component
- Understand interworking of refrigerant metering device, its behavior during normal operation of a HVAC system, diagnosis of abnormal operation and repairing of this component

- Understand interworking of condenser, its behavior during normal operation of a HVAC system, diagnosis of abnormal operation and repairing of this component
- Understand interworking of compressor, its behavior during normal operation of a HVAC system, diagnosis of abnormal operation and repairing of this component
- Understand interworking of electrical system for residential HVAC systems, its behavior during normal operation of a HVAC system, diagnosis of abnormal operation and repairing of this component
- Understand interworking of gas heat and heat pump systems, their behavior during normal operation of a HVAC system, diagnosis of abnormal operation and repairing of this component
- Understand interworking of commercial and industrial HVAC systems, their behavior during normal operation of a HVAC system, diagnosis of abnormal operation and repairing of this component
- Understand interworking of commercial and industrial refrigeration systems, their behavior during normal operation of a HVAC system, diagnosis of abnormal operation and repairing of this component

Graduates of this program will find entry level positions in the residential and commercial HVAC-R industry. The program is comprised of six courses. All courses are independent of each other and can be taken without prerequisite.

Blended Full Time Residential And Commercial Heating, Ventilation And Air Conditioning And Commercial Refrigeration Program									
Module	Total Clock Hours	Weeks	Lab Hours Per Week	Total Lab Hours	Lab Semester Credit Hrs.	Online Hours Per Week	Total Online Hours	Online Semester Credit Hrs.	Total Module Hrs.
CRT 101-Core	115	5.75	10.25	58	1.5	9.75	55	3.5	5
CRT 102-Refrigeration	110	5.5	10.25	55	1.5	9.75	53	3.5	5
CRT 103-Electrical & Heating	120	6	10.25	61	2.0	9.75	58	3.5	5.5
CRT 104-Systems & Components	115	5.75	10.25	58	1.5	9.75	55	3.5	5
CRT 105-Commercial Air Systems	115	5.75	10.25	58	1.5	9.75	55	3.5	5
CRT 106-Commercial & Industrial	145	7.25	10.25	72	2.0	9.75	70	4.5	6.5
								Total Semester Hrs.	32
								Total Clock Hrs.	720

Students who use VA funding cannot register for Blended Full-Time or Online programs.

Full time residential and commercial heating, ventilation and air conditioning and commercial refrigeration program									
Module	Total Clock Hours	Weeks	Theory Hours Per Week	Total Lecture Hours	Total Lecture Semester Hrs.	Lab Hours Per Week	Total Lab Hours	Lab Semester Credit Hrs.	Total Semester Credit Hrs.
CRT 101-Core	115	5.75	10.25	58	1.5	9.75	55	3.5	5
CRT 102-Refrigeration	110	5.5	10.25	55	1.5	9.75	53	3.5	5
CRT 103-Electrical & Heating	120	6	10.25	61	2.0	9.75	58	3.5	5.5
CRT 104-Systems & Components	115	5.75	10.25	58	1.5	9.75	55	3.5	5
CRT 105-Commercial Air Systems	115	5.75	10.25	58	1.5	9.75	55	3.5	5
CRT 106-Commercial & Industrial	145	7.25	10.25	72	2.0	9.75	70	4.5	6.5
								Total Semester Hrs.	32
								Total Clock Hrs.	720

Students who use VA funding cannot register for Blended Full-Time or Online programs.

ACI offers avocational ESL classes at the cost of \$2,500.00 for a full-time, four-month class.

Program Costs

Blended Hybrid Residential & Commercial Heating, Ventilation & Air Conditioning & Commercial Refrigeration Certificate Program 720 hours, 9 months (36 weeks), 32 semester credits		
	Blended	
Registration	\$100.00	
Tuition	\$19,895.00	
Books	\$2,000.00	
Total Cost	\$21,995.00	

Residential Heating, Ventilation & Air Conditioning Certificate Program 340 hours, 4.5 months (18 weeks), 15 semester credits		
	Blended	
Registration	\$100.00	
Tuition	\$4,895.00	
Books	\$2,000.00	
Total Cost	\$6,995.00	

Full time Residential & Commercial Heating, Ventilation & Air Conditioning & Commercial Refrigeration Certificate Program 720 hours, 9 months (36 weeks), 32 semester credits		
		On Ground
Registration		\$100.00
Tuition		\$19,895.00
Books		\$2,000.00
Total Cost		\$21,995.00

***Agency & Agency referred students may have a discounted tuition.**

**** Current interest charged for self-pay students must be stated and disclosed on the enrollment agreement prior to student enrollment.**

Retaking failed courses

Students will only be allowed to repeat courses as required by ACI due to academic problems or attendance violations, and only as scheduling permits. Students are permitted to repeat courses under the following conditions:

- * Students who previously passed a course may only repeat that course one additional time (two total attempts).
- * Students who have attempted but not passed a course may repeat the course two additional times (three total attempts).
- *The highest grade received on the repeated courses becomes the final grade and supersedes all other grades for that course. It will replace all other grades for that course in the CGPA calculation.
- * All final grades are reflected on the official transcript; repeated courses are designated by "***".
- *Students who do not successfully pass a required course three times will be dismissed from the program. Students dismissed from a program for failing a required course three times cannot be readmitted into the same program or into another program that requires the same course.
- * All program-specific grading requirements and restrictions on course repeats stipulated by state regulatory and accrediting bodies or the campus catalog must be followed.
- * Repeated courses must be paid for by the student.

Tuition Payment

Prior to enrolling at the Institution, all applicants are encouraged to explore the availability of financial funding through state agencies and the Veterans Administration. Financial assistance information and application assistance are provided to help each student and his/her family clearly understand their financial situation before entering into a contractual agreement. Payment plans are available for self-pay students.

Admissions Requirements

- 1) Applicants must be 18 years old or older
- 2) Applicants must complete an Application for Admissions
- 3) Applicants must have a Diploma or GED, or take and pass an entrance exam
- 4) Applicants must speak English or Spanish or take and pass an entrance exam (ESL programs are available to students so that they are able to improve their English and be able to pass the Entrance Exam and enter the English language trade classes)
- 5) Applicants desiring to enroll in blended courses will be required to complete a Distance Learning Assessment to confirm they are well suited for online coursework
- 6) Applicants must meet with an Admissions Representative to determine the type of class schedule that will best meet the applicant's objectives, and sign an enrollment agreement

*ACI has developed an entrance exam which has proven successful in determining an applicant's ability to successfully understand and complete the requirements of the programs offered. A minimum passing score of 70% is required. Applicants who fail the exam will be allowed to retake the exam in 24 hours. A third attempt at the exam will be provided one week following the second exam attempt. A fourth attempt at the exam will not be provided for 1 month following the third attempt.

Admissions Process

Interested applicants can call or visit ACI to set up an appointment with an Admissions Representative. Applicants are encouraged to visit to see the facilities firsthand, and meet the staff.

During the admissions appointment, the programs offered, the admissions requirements, program costs and the catalog will be reviewed with the applicant. Applicants will also need to take the Distance Learning Assessment.

Only after the applicant has satisfied all of the admissions requirements will the applicant be provided an enrollment agreement. The enrollment agreement is the contract between the applicant and ACI. The enrollment agreement lists the program description, the program hours, class schedule, academic delivery and cost for program completion.

The applicant becomes a student only after the enrollment agreement has been accepted by ACI.

2018 Academic Calendar (Start Dates)

Mon/Wed HVAC-R (English)

9 Month

1-8-18	7-9-18
2-26-18	8-20-18
4-16-18	9-24-18
5-30-18	11-12-18

Mon/Wed HVAC (English)

4 Month

1-8-18	8-13-18
2-19-18	9-24-18
4-9-18	11-5-18
5-21-18	12-17-18
7-2-18	

Tues/Thurs HVAC-R (English)

9 Months

1-9-18	7-10-18
2-27-18	8-21-18

4-17-18	10-2-18
5-29-18	11-20-18

Tues/Thurs HVAC (English)
4 Month

1-9-18	8-14-18
2-20-18	9-25-18
4-10-18	11-6-18
5-22-18	12-18-18
7-3-18	

Mon-Fri HVAC-R (English)
9 Month

1-8-18	7-9-18
2-26-18	8-20-18
4-16-18	10-1-18
5-29-18	11-19-18

Fri/Sun HVAC (Spanish)
4 Month

2-2-18	7-20-18
3-16-18	8-31-18
4-27-18	10-12-18
6-8-18	11-23-18

Sat HVAC-R (Spanish)
9 Month

1-6-18	8-11-18
2-17-18	9-29-18
3-31-18	11-10-18
5-12-18	12-22-18
6-30-18	

Sat HVAC (Spanish)

4 Month

2-3-18	7-21-18
3-17-18	9-1-18
4-28-18	10-13-18
6-9-18	11-24-18

Mon/Tues HVAC-R (English)

9 Month

2-5-18	7-30-18
3-26-18	9-17-18
5-7-18	10-29-18
6-18-18	12-10-18

Mon/Tues HVAC (English)

4 Month

1-29-18	7-23-18
3-19-18	9-3-18
4-30-18	10-22-18
6-11-18	12-3-18

Recognized Holidays

ACI Holiday Class Closure

- Christmas Eve through New Year's Day and weekends after Christmas and New Year's
- Martin Luther King, Jr. Day
- Spring Break Week
- Memorial Day
- Independence Day
- Labor Day
- Veteran's Day
- Thanksgiving Day and weekend after Thanksgiving

ACI Holiday Office Closure

- Christmas Eve, Christmas Day, New Year's Eve and New Year's Day
- Memorial Day
- Independence Day
- Labor Day

- Thanksgiving Day and the day after Thanksgiving

Note: Class schedules are extended for holidays, so that the total hours of instruction for each class is provided.

Class Schedule

On-ground

Students in the full-time program will attend class Monday through Friday for 4 hours each day, 5 days a week, or a weekend schedule which includes 4 hours on Friday, and 8 hours on Saturdays and Sundays for a total of 20 hours of instruction each week.

The session hours for on-ground instruction are as follows:

Monday – Friday

8:00am to 12:00pm
1:00pm to 5:00pm
6:00pm to 10:00pm

Friday – Sunday

8:00am to 5:00pm
12:00pm to 1:00pm lunch
Fridays 6:00pm to 10:00pm

A ten-minute break will be taken every after every fifty minutes of instruction.

Blended

Students will attend three days per week of on-ground instruction (10.5 hours instruction), and two days on-line (9.5 hours of on-line instruction), for a total of 20 hours of instruction each week.

Course Sequences and Frequency

Courses are taught in a wheel. For example, the HVAC Certificate Program, CRT 101, is followed by CRT 102, which is then followed by CRT 103, until all 6 courses have been taught. Once the last course is taught the wheel starts over with CRT 101. Students may start at the beginning of any course, as each course is self-standing (no pre-requisites). If a student fails a course, the student cannot retake the course until it is scheduled to be offered again.

Academic Delivery

Programs will be delivered in some combination of classroom, lab, and online instruction. The Institute's online platform is located at: www.nccerconnect.com. Programs are taught by qualified instructors. ACI's online course is a specialized Internet-based application presented to both the students and the instructor. Unlike traditional classroom instruction, which often relies on improvisation driven by a desire to cover the material, The Institute's online courses are fully developed and realized before the first lesson ever takes place.

Following enrollment, students will have access to the following support services:

- Orientation to the campus
- Orientation to the on-ground and digital classroom
- Technology and Equipment Requirements for Digital Instruction

In order to enroll in a program with a digital instruction component, you must have access to a computer with the minimum requirements.

Online Student Identity Authentication and Privacy

The online classroom has restricted access and is a password protected electronic environment. Prior to entering, an online student's identity must be verified by way of an assigned unique login and password that is provided to each student upon enrollment and class registration. Verification of student information is provided at no extra cost to the student. Student identity will be maintained in a private format by ACI in accordance with established institutional privacy and confidentiality policies, with access provided only to agents of ACI who require immediate and necessary use of the information to fulfill the various activities. It is the student's responsibility to strictly preserve the privacy of their login and password information. Students are prohibited from sharing login and password information. Any such intentional compromise of the integrity of the privacy of a student's login and/or password (i.e., sharing of this information) will result in the student being subject to immediate termination from ACI. In the event a student believes the privacy associated with their login and password information has been compromised, they are required to contact school officials for an immediate reset of their information. This is also done at no extra cost to the student.

ACI's application for admission requires a driver's license number, which may be used for identity verification. Several other measures assist in verifying that the individual submitting work online is the enrolled student appearing for on-ground lab work. For example, quizzes may be given in any lab course, on-ground.

Technology Requirements for Online Coursework

The minimum computer requirements for participation in online coursework are as follows:

The Institution will assess a prospective student's ability to be successful in a digital instruction environment using the following assessments, prior to admission:

- Student must complete an online assessment to determine if digital instruction is a good fit for them. Additionally, as part of the admission process for programs that have a digital learning component, students are required to attest to certain competencies in the use of technology. Students must have the following skills:
 - Ability to use e-mail to correspond with faculty, staff, and students.
 - Ability to access, create, and save documents in Microsoft Office formats. At a minimum, students must be familiar with Microsoft Word
 - Ability to browse the Web, including downloading and installing common plug-ins (listed in the Technology and Equipment Requirements for Digital Instruction section of this catalog) and configuring common browser options
- Student must have ability to configure and run applications, including an antivirus application, to ensure that the student's system is secure and transmitted files are virus free.

Students that enroll in an online program must have the following minimum technology requirements:

- A functioning email addresses
- Access to Microsoft 2010 or Microsoft Office 365
- Intel I3 Processor or higher
- A monitor capable of displaying 1024x768 at 16bit color
- Minimum 4 GB of RAM
- High-speed Internet access on LAN connection (DSL or faster)
 - Wireless connection (802.11n or ac)
 - While dial-up may work, it may not be suitable for many applications
- A supported web browser
 - Mozilla Firefox, version 37 or greater
 - Internet Explorer, version 10 or greater
 - Safari, version 6 or greater
- Sound card and computer speakers to listen to audio presentations
- Headset/microphone
- Adobe Flash, version 17 or greater
- Adobe Reader, version DC
- Java, version 8 or greater

ACI has computers at student disposal to be used at the school. These computers will meet the minimum requirements listed above.

Transfer Credit

Transfer Out

The transferability of credits you earn at ACI is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the certificate you earn is also at the complete discretion of the institution to which you may seek to transfer. If the credits that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason, you should make certain that your attendance at this institution will meet your educational goals.

Transfer In

All credits earned towards the completion of a certificate must be earned at ACI. No credit will be offered for past education or experience.

Program Transfers

If a student decides to transfer into another ACI program, the credits earned for courses completed in the first program with a grade of “C” or higher, which are also course requirements in the new program, will be transferred to the new program. The student will be financially responsible for all courses attempted in the first program, as well as the additional courses required to be completed in the new program.

Financial Aid

ACI is not currently certified to participate in Title IV Federal Financial Aid Programs.

Students who intend to use VA Benefits (GI Bill) can only register for on-ground programs.

Grading Policy

Grades will be provided to students and posted to the student's record each time they take an online exam and at the end of every lab session. ACI uses average grade points as they accumulate through each program of study to assess student performance. A percentage grade will be provided at end of each course for classroom participation, written reports, online tests, and lab skill demonstration.

Lab and lecture grades for the hybrid program will count for 80% of the student's grade and the online quizzes will account for 20% of their grade. For full-time students, lab and lecture grades will count for 90% of the student's grade and the online quizzes will account for 10% of their grade. ACI is committed to providing each student with the very best training experience with an emphasis on individual attention as may be necessary.

Grades will be determined using the following scale:

90% - 100% performance of skills	= A	(4 Grade Points)
80% - 89% performance of skills	= B	(3 Grade Points)
70% - 79% performance of skills	= C	(2 Grade Points)
60% - 69% performance of skills	= D	(1 Grade Point) - Unacceptable
0% - 59% performance of skills	= F	(0 Grade Points - Unacceptable)
Incomplete Grade	= I	
Withdrawal	=W	

An "I" is awarded only by student request, and only if the course has been fully paid, and the student must withdrawal from the program prior to course completion.

A "W" is posted only by student request, and only if the student intends to continue in the program, but is unable to complete the current course enrolled. Students will be charged tuition for retaking a course for which a W was posted.

ACI will refresh and retest students who achieve a D or an F grade on an exam as the instructor deems necessary throughout the course to help improve their individual understanding of the material and to help elevate their academic standing. Final course exams may not be retaken.

Satisfactory Academic Progress Policy

Satisfactory Academic Progress (SAP) ensures that students are progressing through their program of study both academically and in a timely manner. To be considered as making

satisfactory progress, a student must both maintain a minimum cumulative grade point average (CGPA) and completion rate (pace).

CUMULATIVE GRADE POINT AVERAGE (CGPA) / PROGRAM COMPLETION RATE (PACE)

The CGPA measures the quality of a student's coursework. Pace measures a student's progress in completing the program within the Maximum Time Frame. Pace is calculated by dividing the number of credits/hours earned by the number of credits/hours attempted at each evaluation.

The minimum cumulative grade point average (CGPA) and pace required for maintaining SAP in the various programs is a 2.0 and 70% completion rate.

EVALUATION PERIODS

For programs 30 weeks or more in length, academic progress is evaluated at the completion of 2 courses. For programs less than 30 weeks, academic progress is evaluated at the end of every course.

At the end of each evaluation period, if the student has less than the minimum cumulative grade point average and/or has not maintained the minimum pace, he or she will be notified and placed on Academic Warning for the next evaluation period (i.e. if you do not meet the CGPA and/or pace requirements in your first evaluation, you will be placed on warning until the next evaluation). A student on Academic Warning continues to be eligible to receive financial aid. If the student regains SAP by the end of the evaluation period, he or she will be notified and removed from Academic Warning. If a student fails to achieve SAP by the end of the evaluation period in which they are on Academic Warning, the student will be notified and withdrawn from the program (unless the student files and is granted an appeal as defined below). All periods of enrollment count toward Satisfactory Academic Progress.

Satisfactory Academic Progress Appeals, Probation, and Academic Plans

A student may appeal the school's determination of withdrawal due to failure to re-establish satisfactory progress by the end of the Academic Warning period to the Director of Education based upon extenuating circumstances. These might include the death of a relative, an illness of or injury to the student or other extraordinary situations. The student's appeal must be received on or before the 3rd day of the new evaluation period.

The written appeal must contain 1) an explanation of why the student failed to meet the SAP standards; and 2) a description of what has changed in the student's situation that will enable him or her to again meet the satisfactory progress standards. Supporting documentation should be submitted if possible.

The Director of Education will review the information submitted in the context of the student's entire academic record, and notify the student of the decision within 24 hours. This decision is final. If the appeal is granted, the student will be placed on probation for the evaluation period, and the Director of Education's notice to the student will outline the requirements of the academic plan the student must follow. The terms of the academic plan must ensure the student will be able to complete the program within the maximum timeframe (1.5 times the program length) and with the required CGPA for graduation.

At the end of the probationary period of evaluation, the student's progress will be evaluated based upon the academic plan. If the student is meeting SAP standards, the student will be notified and removed from a probationary status. If the student is not making SAP but has met all the terms of the academic plan, the student will be eligible to remain in school on a probationary status.

If the student fails to meet the terms of the academic plan at the end of a probationary period of evaluation, the student will be notified and dismissed from school. Second appeals in this situation will only be granted at the discretion of the Executive Director of Education, and based upon very exceptional circumstances.

Procedure for re-establishing Satisfactory Academic Progress (SAP)

A student can re-establish SAP by improving their CGPA and/or completion rate to the minimum requirements specified for SAP. A student who is placed on Academic Warning and re-establishes SAP at the end of the Academic Warning period will be removed from Academic Warning. A student who is placed on Probation and re-establishes SAP at the end of the Probation period will be removed from Probation.

COURSE REPETITIONS

A student who receives an F or D grade must repeat the course and earn a passing grade. A student may also repeat a course with a grade other than F or D to earn a higher grade.

Once a student fails a course, it may not be possible for him/her to graduate on time (within 100% of the program length.) The higher of the two grades earned for a repeated course will be used in calculating the CGPA. The credits attempted for both courses (both initial and repeat attempt of a course) are included in the calculation of the completion rate.

INCOMPLETE GRADES

Incomplete grades do not affect the CGPA, but the credits attempted but not earned are included in calculating the completion rate.

WITHDRAWAL FROM A COURSE

Course withdrawals are not included in the calculation of the CGPA. Course withdrawals are included in calculating the completion rate.

TRANSFER CREDITS/HOURS

ACI does not accept transfer credits.

NON-CREDIT / REMEDIAL COURSEWORK

ACI does not offer non-credit and remedial courses as part of its approved programs.

ACI offers courses for no credit and individual courses for credit without being enrolled in an approved program. Satisfactory academic progress standards do not apply to these courses. Students are not eligible for financial assistance for these courses.

CHANGING PROGRAMS / ADDITIONAL CREDENTIALS

When a student changes programs or wants to enroll in another program to seek an additional credential, any courses applicable to the new program/credential must be included in the calculation of the CGPA and Maximum Time Frame for the new program.

Re-entry for students dismissed due to failure to meet SAP

If a student is terminated for unsatisfactory progress and pursuant to Title 40, Texas Administrative Code, Section 807.221.224, the student cannot be readmitted until a minimum of one grading period has passed. Upon reentering the program, the student would be placed on academic probation for one grade period. If the student does not show satisfactory progress during their probation period, they will again be terminated and will not be readmitted to the program.

Pursuant to Texas Education Code, Section 132.061(f), students who withdraw from a program for an appropriate reason, not related to their academic status, and who are paying full tuition, may request a grade of incomplete. A student receiving a grade of incomplete may reenroll during the 12 months following their withdrawal in the class or classes they are receiving an incomplete in at no additional tuition cost.

Student Participation / Attendance

Any student who does not provide documented attendance either on-ground or online for 10 consecutive days may be automatically withdrawn from the program if contact with the student cannot be made to confirm he/she intends to return to class by participating in the required activities. If contact is made with the student, and the student intends to continue, an additional seven days may be granted to provide time for the student to post attendance.

Due to the nature of the blended distance learning format provided by ACI, students are not required to attend synchronous, (live), classes except for the on-ground scheduled lab hours. Students are required to read the online material. Participation in the on-demand online classes will be evident in the student's lab work. For students who are placed on academic probation, their online attendance/participation will be closely monitored to ensure the student is engaging in the program. If the student's work falls below the standards set forth in the Grading Policy, it is assumed that this is the result of the student not participating in the online classes.

Assignments and critiques are most often done in the live lab sessions, which are both crucial and beneficial for students to scrutinize. The work posted by the student on the online test and quizzes and their understanding of the lab material will reflect the participation and understanding of the course work.

Lack of attendance at either the on-ground or online scheduled hours will result in failure to maintain a 2.0 average which will result in probation and potentially termination from the program.

School conduct policy

The following behaviors are not in harmony with the educational goals of ACI:

1. Academic dishonesty, such as cheating, plagiarism, or knowingly furnishing false information to ACI
2. Forgery, alteration, misuse, or mutilation of ACI documents, records, identifications, educational materials, or ACI property
3. Obstruction or disruption of teaching, administration, disciplinary procedures, or other activities, including public service functions or other authorized activities on the campus
4. Interfering with the learning process of other students, classroom presentations, or individual instruction being conducted in any class, laboratory, authorized activity or online session of the school
5. Physical or verbal abuse of, or threats toward, any person, including harassment or stalking, or conduct which threatens or endangers health or safety of individuals or the campus community at large
6. Theft of or unauthorized removal of or damage to property of ACI, or using or attempting to use ACI property in a manner inconsistent with its designed purpose
7. Unauthorized entry to, use, or occupation of ACI facilities
8. Intentional and unauthorized interference with a right of access to ACI facilities or freedom of movement or speech of any person on the premises
9. Use or possession of illegal drugs, firearms, ammunition, knives, or other dangerous weapons, substances, or materials (except as expressly authorized by ACI), bombs, explosives, or incendiary devices prohibited by law
10. Disorderly conduct or lewd, indecent, or obscene conduct or expression
11. Violation of a federal, state, or local ordinance including, but not limited to, those covering alcoholic beverages, narcotics, dangerous drugs (as detailed in the Drug Free Schools Act), peer-to-peer file sharing, identity theft, gambling, sex offenses, or arson, which violation occurs on or through use of ACI property
12. Rioting, or aiding, abetting, encouraging, or participating in a riot
13. Failure to comply with the verbal or written directions of any ACI official acting in the performance of his/her duty and in the scope of his/her employment, or resisting designated campus security personnel while acting in the performance of his/her duties
14. Aiding, abetting, or inciting others to commit any act of misconduct set forth in numbers 1 through 12 above
15. Conduct which leads to formal charges and/or a conviction for a serious crime (Upon the filing of formal charges involving an offense which is of a serious nature including felonies and some drug-related offenses, a student may be suspended pending disposition of the charges in civil court.)

Disciplinary proceedings and sanctions specific to peer-to-peer file sharing and drug- and alcohol-related offenses are available through student support. Re-admission will be on a probationary basis only. Any further infraction of the policies and rules will necessitate permanent suspension.

Requirements for Graduation

To graduate from the courses of instruction offered by ACI, students must satisfy the following requirements:

1. Complete all required courses with a minimum cumulative 2.0 GPA
2. Satisfy all financial obligations to ACI
3. Complete the program within the scheduled time frame (within 150% of the program length)
4. For HVAC and HVAC-R programs, successfully pass the Type 2 - EPA Licensure Certificate Test
5. Satisfactory progress and turning in of the assigned homework

Academic Transcripts and Certificates

Copies of unofficial academic transcripts may be requested at a cost of \$5.00. Current or former students may request a free copy of their unofficial transcript by submitting a written request to the Institution including their name and physical address and/or email address where the unofficial transcript should be mailed or emailed. Transcripts will be marked to indicate they are unofficial copies. Official transcripts may be requested at a cost of \$15.00. Graduates will be provided a Certificate of Completion once all graduation requirements have been met.

Placement Assistance

ACI offers placement assistance. ACI works closely with local employers to assist in placement of the students after graduation at no charge to the graduate. Employment opportunities from prospective HVACR companies contacting the school are made available to students upon graduation as well as assistance with resume preparation, addresses for the many HVAC Companies in the US and the world, and contact data for placement service personnel who may assist students with locating a position as a HVAC technician. ACI does not guarantee graduate employment.

Grievances

Student grievances should first be directed to the instructor. If the grievance cannot be resolved with the instructor, then the student may meet with the School Director or Director of Education to discuss his or her grievance. If the grievance cannot be resolved with the Director, then the student may direct unresolved grievances to:

Texas Workforce Commission
Career Schools and Colleges
101 East 15th Street
Austin, Texas 78778-0001
&

Council on Occupational Education
7840 Roswell Road
Building 300, Suite 325
Atlanta, GA 30350
<http://council.org/>

Approved and Regulated by the Texas Workforce Commission, Career Schools and Colleges, Austin, Texas. ACI is a Candidate for Accreditation by the Commission of the Council on Occupational Education. TWC school number is S4226 and COE school ID number is 348100.

Cancellation Policy

A full refund of tuition and fees collected will be made in the event that:

1. The student cancels the enrollment contract within 72 hours (until midnight of the third day excluding Saturdays, Sundays and legal holidays) after the enrollment contract is signed, or
2. Students who have not visited the school facility prior to enrollment have the opportunity to withdraw without penalty within three days following either attendance at a regularly-scheduled orientation or following a tour of the facilities and inspection of the equipment, or
3. An enrollee is not accepted by the school, or the course of instruction is discontinued by the school and this prevents the student from completing the course, or
4. The student's enrollment was procured as a result of any misrepresentation in advertising, promotional materials of the school, or representations by the owner or representatives of the school.
5. If the course of instruction is discontinued by the school and this prevents the student from completing the course

A student who cancels enrollment within the student's first three scheduled class days, or fails to ever attend a class, will receive a full refund of tuition except that the school may retain not more than \$100 in administrative fees charged, as well as items of extra expense that are necessary for the portion of the program attended and stated separately on the enrollment agreement.

Refunds are issued within 45 days of the planned or actual class start date.

Refund Policy

Refund computations will be based on the percentage of course time remaining in the period of financial obligation as of the effective date of termination. Leaves of absence, suspensions and school holidays do not impact this computation.

The effective date of termination for refund purposes will be the earliest of the following:

- (a) The last day of attendance, if the student is terminated by the school;
- (b) The date of receipt of written notice from the student; or
- (c) Ten school days following the last date of attendance.

The last day of attendance is defined as the last day of attendance in an on-ground course, or the last day of an academically related activity online, whichever is later.

If a student enters a residence or synchronous distance education program and withdraws or is otherwise terminated, the school or college may retain not more than \$100 in nonrefundable administrative fees for the entire program. The minimum refund of the remaining tuition and fees will be the pro rata portion of tuition, fees, and other charges that the number of hours remaining in the portion of the course or program for which the student has been charged after the effective date of termination bears to the total number of hours in the portion of the course or program for which the student has been charged, except that a student may not collect a refund if 75 percent or more of the total number of hours in the portion of the program for which the student has been charged has elapsed as of the effective date of termination.¹

Refunds for items of extra expense to the student, such as books, tools, or other supplies should be handled separately from refund of tuition and other academic fees. The student will not be required to purchase instructional supplies, books and tools until such time as these materials are required. Once these materials are purchased, no refund will be made. For full refunds, the school can withhold costs for these types of items from the refund as long as they were necessary for the portion of the program attended and separately stated in the enrollment agreement. Any such items not required for the portion of the program attended must be included in the refund.

A student who withdraws for a reason unrelated to the student's academic status after the 75 percent completion mark and requests a grade at the time of withdrawal shall be given a grade of "incomplete" and permitted to re-enroll in the course or program during the 12-month period following the date the student withdrew without payment of additional tuition for that portion of the course or program.

A full or partial refund may also be due in other circumstances of program deficiencies or violations of requirements for career schools and colleges.

Refund policy for Seminars:

1. Refund computations will be based on the period of enrollment computed on basis of course time (clock hours).
2. The effective date of termination for refund purposes will be the earliest of the following:
 - (a) the last date of attendance; or
 - (b) the date of receipt of written notice from the student.
3. If tuition and fees are collected in advance of entrance, and the student does not enter school, not more than \$100 shall be retained by the school.
4. If the student fails to enter the program, withdraws, or is discontinued at any time before completion of the program, the student will be refunded the pro rata portion of tuition, fees, and other charges that the number of class hours remaining in the program after the effective date of termination bears to the total number of class hours in the program.
5. A full refund of all tuition and fees is due in each of the following cases:
 - (a) an enrollee is not accepted by the school;
 - (b) if the program of instruction is discontinued by the school and this prevents the student from completing the program; or

¹ More simply, the refund is based on the precise number of course time hours the student has paid for, but not yet used, at the point of termination, up to the 75% completion mark, after which no refund is due. Form PS-1040R provides the precise calculation.

- (c) if the student's enrollment was procured as a result of any misrepresentation in advertising, promotional materials of the school, or misrepresentations by the owner or representatives of the school.

REFUND POLICY FOR STUDENTS CALLED TO ACTIVE MILITARY SERVICE

A student of ACI who withdraws from ACI as a result of being called to active duty in a military service of the United States or the Texas National Guard may elect one of the following options for each program in which the student is enrolled:

- (a) If tuition and fees are collected in advance of the withdrawal, a pro rata refund of any tuition, fees, or other charges paid by the student for the program and a cancellation of any unpaid tuition, fees, or other charges owed by the student for the portion of the program the student does not complete following withdrawal; or
- (b) A grade of incomplete with the designation "withdrawn-military" for the courses in the program, other than courses for which the student has previously received a grade on the student's transcript, and the right to re-enroll in the program, or a substantially equivalent program if that program is no longer available, not later than the first anniversary of the date the student is discharged from active military duty without payment of additional tuition, fees, or other charges for the program other than any previously unpaid balance of the original tuition, fees, and charges for books for the program; or
- (c) The assignment of an appropriate final grade or credit for the courses in the program, but only if the instructor or instructors of the program determine that the student has:
 - (1) satisfactorily completed at least 90 percent of the required coursework for the program; and
 - (2) demonstrated sufficient mastery of the program material to receive credit for completing the program.

The payment of refunds will be totally completed such that the refund instrument has been negotiated or credited into the proper account(s), within 45 days after the effective date of termination.

Completed forms, inquiries, or corrections to the individual information contained in this form shall be sent to the TWC Career Schools and Colleges, 101 East 15th Street, Room 226T, Austin, Texas 78778-0001, (512) 936-3100. Individuals may receive and review information that TWC collects about the individual by emailing to open.records@twc.state.tx.us or writing to TWC Open Records, 101 E. 15th St., Rm. 266, Austin, TX 78778-0001.

Course Descriptions

Module: CRT 101-Core		
Lessons	# Of Hours	Subject Descriptions
Basic Safety	12.5	Complies with OSHA-10 training requirements. Explains the safety obligations of workers, supervisors, and managers to ensure a safe workplace. Discusses the causes and results of accidents and the impact of accident costs. Defines safe work procedures, proper use of personal protective equipment, and working with hazardous chemicals. Identifies other potential construction hazards, including hazardous material exposures, welding and cutting hazards and confined spaces.
Introduction to Construction Math	10	Reviews basic mathematical functions and explains their applications to the construction trades. Explains how to use and read various length measurement tools, including standard and metric rulers and tape measures, and the architect's and engineer's scales. Explains decimal-fraction conversions and the metric system, using practical examples. Also reviews basic geometry as applied to common shapes and forms.
Introduction to Hand Tools	12.5	Introduces trainees to hand tools that are widely used in the construction industry, such as hammers, saws, levels, pullers, and clamps. Explains the specific applications of each tool and shows how to use them properly. Also discusses important safety and maintenance issues related to hand tools.
Introduction to Power Tools	10	Provides detailed descriptions of commonly used power tools, such as drills, saws, grinders, and sanders. Reviews applications, proper use, safety, and maintenance. Many illustrations show power tools used in on-the-job settings.
Introduction to Construction Drawings	10	Familiarizes trainees with basic terms for construction drawings, components, and symbols. Explains the different types of drawings (civil, architectural, structural, mechanical, plumbing/piping, electrical, and fire protection) and instructs trainees on how to interpret and use drawing dimensions. Four oversized drawings are included.
Basic Rigging	15	Explains how ropes, chains, hoists, loaders, and cranes are used move material and equipment from one location to another on a job site. Describes inspection techniques and load-handling safety practices. Also reviews American National Standards Institute (ANSI) hand signals.
Basic Communication Skills	7.5	Provides trainees with techniques for communicating effectively with co-workers and supervisors. Includes practical examples that emphasize the importance of verbal and written information and instructions on the job. Also discusses effective telephone and e-mail communication skills.
Basic Employability Skills	7.5	Identifies the roles of individuals and companies in the construction industry. Introduces trainees to critical thinking and problem solving skills and computer systems and their industry applications. Also reviews effective relationship skills, effective self-presentation, and key workplace issues such as sexual harassment, stress, and substance abuse.
Introduction to Materials Handling	5	Recognizes hazards associated with materials handling and explains proper materials handling techniques and procedures. Also introduces materials handling equipment, and identifies appropriate equipment for common job-site tasks.
Trade Mathematics	10	Explains how to solve problems involving the measurement of lines, area, volume, weights, angles, pressure, vacuum, and temperature. Also introduces scientific notation, powers, roots, and basic algebra and geometry.
Fundamentals of Crew Leadership	15	Introduces human resource criteria, concepts, and skills for the craftsperson desiring to advance to leadership roles.

Module: CRT 102-Refrigeration		
Lessons	# Of Hours	Subject Descriptions
Introduction to HVAC	7.5	Covers the basic principles of heating, ventilating, and air conditioning, career opportunities in HVAC, and apprenticeship programs.
Introduction to cooling	30	Describes principles of heat transfer, refrigeration, and pressure-temperature relationships and the components and accessories used in air conditioning systems.
Leak Detection, Evacuation, Recovery, and Charging	20	Covers refrigerant handling and equipment servicing procedures to service HVAC systems in an environmentally safe manner.
Troubleshooting Cooling	20	Covers techniques and equipment used in troubleshooting cooling equipment, focusing on analyzing system temperatures and pressures to isolate faults.
Heat Pumps	20	Covers the principles of reverse cycle heating. Describes the operation of heat pumps and explains how to analyze heat pump control circuits. Includes heat pump installation and service procedures.
Troubleshooting Heat Pumps	12.5	Reviews heat pump operation and heat pump control circuits, including how to isolate and correct faults in the heating, cooling, auxiliary heat, and defrost functions of heat pumps.

Module: CRT 103-Electrical & Heating		
Lessons	# Of Hours	Subject Descriptions
Basic Electricity	12.5	Teaches power generation and distribution, electrical components, DC circuits, and electrical safety.
Alternating Current	5	Covers transformers, single-phase and three-phase power distribution, capacitors, the theory and operation of induction motors, and the instruments and techniques used in testing AC circuits and components. Also reviews electrical safety.
Troubleshooting Accessories	10	Provides hands-on lab sessions on how to troubleshoot humidifiers, electronic air cleaners, economizers, zone controls, and heat recovery ventilators.
Control Circuit and Motor Troubleshooting	30	Covers the operation, testing, and adjustment of conventional and electronic thermostats, as well as the operation of common electrical, electronic, and pneumatic circuits used to control HVAC systems. Explains how to analyze circuit diagrams for electronic and microprocessor-based controls used in comfort heating and cooling equipment and how to troubleshoot systems that use these controls.
Troubleshooting Electronic Controls	7.5	Explains how to analyze circuit diagrams for electronic and microprocessor-based controls used in comfort heating and cooling equipment and how to troubleshoot systems that use these controls.
Building Management Systems	17.5	Explains how computers and microprocessors are used to manage zoned HVAC systems. Includes updates reflecting new system architecture, advances in network protocols and systems controllers, and communication via Internet and wireless.
Introduction to heating	15	Covers heating fundamentals, types and designs of furnaces and their components, and basic procedures for installing and servicing furnaces.
Troubleshooting Gas Heating	12.5	Covers tools, instruments, and techniques used in troubleshooting gas heating appliances, including how to isolate and correct faults.
Troubleshooting Oil Heating	10	Explains how to identify the common causes of problems in oil furnaces and offers hands-on experience in isolating and correcting oil furnace malfunctions.

Module: CRT 104-Systems & Components		
Lessons	# Of Hours	Subject Descriptions
Copper and plastic piping practices	5	Covers the selection, preparation, joining, and support of copper and plastic piping and fittings.
Soldering and Brazing	7.5	Provides information on tools, materials, and safety precautions , and explains step-by-step procedures for soldering and brazing piping.
Refrigerants and Oils	10	Covers characteristics and applications of pure and blended refrigerants, and provides extensive coverage of lubricating oils used in refrigeration systems.
Compressors	15	Explains operating principles of compressors used in comfort air conditioning and refrigeration systems. Includes installation, service, and repair procedures.
Metering Devices	7.5	Covers the operating principles, applications, installation, and adjustment of fixed and adjustable expansion devices used in air conditioning equipment.
Air distribution systems	10	Describes air distribution systems and their components, air flow measurement, ductwork installation principles, and the use of instruments for measuring temperature, humidity, pressure, and velocity.
Chimneys, Vents, and Flues	5	Covers the principles of venting fossil-fuel furnaces and methods for selecting and installing vent systems for gas-fired heating equipment.
Air Quality Equipment	5	Covers principles, processes, and devices used to control humidity and air clean-lines, as well as devices used to conserve energy in HVAC systems.
Fiberglass and Fabric Duct Systems	5	Covers the layout, fabrication, installation, and joining of fiberglass ductwork and fittings. Describes the proper methods for attaching and supporting flex duct.
Basic Maintenance	20	Describes the purpose of planned maintenance and outlines procedures for servicing gas and oil furnaces, electric heating equipment, cooling equipment, and heat pumps.
Heating and Cooling System Design	25	Identifies factors that affect heating and cooling loads. Explains the process by which heating and cooling loads are calculated, and how load calculations are used in the selection of heating and cooling equipment. Covers types of duct systems and their selection, sizing, and installation requirements.

Module: CRT 105-Commercial Air Systems		
Lessons	# Of Hours	Subject Descriptions
Commercial Airside Systems	12.5	Describes the systems, equipment, and operating sequences commercial airside system configurations such as constant volume single-zone and multi-zone, VVT, VAV, and dual-duct VAV.
Sheet Metal Duct Systems	5	Covers layout, fabrication, installation, and insulation of sheet metal ductwork. Also includes selection and installation of registers, diffusers, dampers, and other duct accessories.
System Air Balancing	20	Covers air properties and gas laws, as well as the use of psychometric charts. Describes tools, instruments, and methods used in balancing an air distribution system.
Indoor Air Quality	15	Defines the issues associated with indoor air quality and its affect on the health and comfort of building occupants. Provides guidelines for performing an IAQ survey and covers the equipment and methods used to monitor and control indoor air quality.
Energy Conservation Equipment	10	Covers heat recovery/reclaim devices, as well as other energy recovery equipment used to reduce energy consumption in HVAC systems.
Construction Drawings and Specifications	25	Teaches how to interpret drawings used in commercial construction, including mechanical drawings, specifications, shop drawings, and as-builts. Explains how to to perform takeoff procedures for equipment, fittings, ductwork and other components.
Basic Carbon Steel Metal Piping Practices	5	Covers iron and steel pipe and fittings, and provides step-bystep instructions for cutting, threading, and joining ferrous piping.
Basic Maintenance	17.5	Covers the application and installation of fasteners, gaskets, seals, and lubricants, as well as the installation and adjustment of different types of belt drives, bearings, and couplings. Includes information on job documentation and customer relations.

Module: CRT 106-Commercial & Industrial		
Lessons	# Of Hours	Subject Descriptions
Introduction to cooling	27.5	Describes principles of heat transfer, refrigeration, and pressure-temperature relationships and the components and accessories used in air conditioning systems.
Introduction to Hydronic Systems	10	Introduces hot water heating systems, focusing on safe operation of the low-pressure boilers and piping systems in residential applications.
Commercial Hydronic Systems	12.5	Describes the boilers, components, and piping systems used in commercial heating applications, and introduces chilled water systems and their components.
Steam Systems	10	Covers operating principles, piping systems, components, and preventive maintenance requirements of steam systems and steam traps.
Water Treatment	10	Explains water problems encountered in heating and cooling systems and identifies water treatment methods and equipment.
System Startup and Shutdown	22.5	Covers procedures for the startup of hot water, steam heating, chilled water, and forced-air distribution systems. after initial equipment installation or after an extended period of shutdown. Includes procedures for preparing these systems for extended shutdown.
Retail Refrigeration Systems	20	Introduces product refrigeration components and systems, including reach-in coolers and freezers.
Commercial and Industrial Refrigeration Systems	22.5	Expands on the study of product and process refrigeration by describing systems used in cold storage and food processing facilities, as well as transportation refrigeration.
Alternative Heating and Socialized Cooling Systems	10	Describes alternative devices used to reduce energy consumption, including wood, coal, and pellet-fired systems, waste-oil heaters, geothermal heat pumps, solar heating, in-floor radiant heating, and direct-fired makeup units.

“The information contained in this catalog is true and correct to the best of my knowledge.”

(Signature)

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