Course Number and Title: ACR 151 Industry Competency Exam II

Campus Location:
Georgetown

Effective Date:
2020-51

Prerequisite:
ACR 104 or concurrent, SSC 100 or concurrent

Co-Requisites:
None

Course Credits and Hours:
1.00 credits
1.00 lecture hours/week
0.00 lab hours/week

Course Description:
This course prepares students to take the Industry Competency Exam (ICE) for Air Conditioning and Heat Pump. The ICE measures standards of basic competency developed, supported, and validated by major industry associations.

Required Text(s):
Obtain current textbook information by viewing the campus bookstore - https://www.dtcc.edu/bookstores online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:
Basic calculator

Schedule Type:
Classroom Course

Disclaimer:
The Industry Competency Exam is included as part of the course.

Core Course Performance Objectives (CCPOs):

1. Discuss system design and component application. (CCC 4; PGC 6)
2. Investigate installation and start-up processes. (CCC 2, 4; PGC 4, 6)
3. Review preventive maintenance techniques and procedures for air conditioning and heat pump equipment. (CCC 2; PGC 7)
4. Examine equipment operation verification procedures and service/repair techniques. (CCC 2; PGC 6)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):
Upon completion of this course, the student will:

1. Discuss system design and component application.
    1. Identify types of systems and their parameters.
    2. Identify proper selection of equipment and components.
2. Explain installation and start-up processes.
    1. Recall equipment specifications.
    2. Define location for equipment.
    3. Explain proper installation procedures and leak testing.
    4. Describe start-up, testing, and equipment adjustments.
3. Review preventive maintenance techniques and procedures for air conditioning and heat pump equipment.
    1. Summarize the results of operational checks on functioning equipment.
    2. Describe equipment cleaning and lubrication techniques and procedures.
    3. Record calibration checks on components.
    4. Identify proper methods of leak testing.
4. Examine equipment operation verification procedures and service/repair techniques.
    1. Diagnose equipment problems based on given information.
    2. Discuss proper component repair and replacement.
    3. Describe equipment testing and verification methods.

Evaluation Criteria/Policies:
Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

92	–	100	=	A
83	–	91	=	B
75	–	82	=	C
0	–	74	=	F

Students should refer to the Student Handbook - https://www.dtcc.edu/handbook for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Final Course Grade:
Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
ICE Exam Core (Summative)	25%
ICE Exam A/C Specialty (Summative)	25%
ICE Exam Heat Pump Specialty (Summative)	25%
ICE Prep Test (Formative)	25%
TOTAL	100%

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):
RHAAASRHA

1. Demonstrate professional behaviors that satisfy workplace expectations and include adherence to safety and environmental concerns related to the field.
2. Service commercial refrigeration and residential heating, ventilation, and air conditioning (HVACR) systems, and interpret related electrical wiring diagrams and schematics.
3. Apply theories of electricity and high and low voltage controls to the HVACR field.
4. Explain scientific principles as they relate to HVACR system operations.
5. Safely use tools, instruments, and equipment related to the HVACR industry.
6. Explain the principles of operation, service, and repair of residential HVACR and commercial refrigeration systems.
7. Identify best practices for proper installation of HVACR equipment and systems.

Disabilities Support Statement:
The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the disabilities services - https://www.dtcc.edu/disabilitysupport web page or visit the campus Advising Center.