

## Course Outcomes INT-107 Intro to HVAC/R

**Course Title:** INT-107 Introduction to Heating, Ventilation, Air Conditioning and Refrigeration

**Course Instructor(s):** Joel Bussard

**Programs:** Industrial Technology, Alternative Energy Technology

### Expected Learning Outcomes

- Understand refrigeration theory.
- Understand EPA regulations and refrigerant recovery process.
- Understand HVAC/R system components and how they work.
- Understand evacuation, leak testing, and charging procedures.
- Understand SEER and COP energy ratings

### Assessment

Assessments will include:

- 2 written tests and a final written exam
- Classroom lab exercises and assignments

### Validation

1. Comparison of final exam results with national average skills in the HVAC and energy field of work.
2. The evaluation of student performance and ability to transfer knowledge to next level of class in the program.
3. Consult Advisory Committee participants as to performance of interns and hired students based on ability and knowledge gained.

### Results

The results of the testing and final examination will show the level of retention of the classroom materials.

The results of the practice exercises and assignments will show the ability of the student to transfer textbook information to hands-on applications.

The results of the Advisory Committee input will allow us to place a rate of success in our database for ongoing improvement to the course and advise us of changes in technology and industry standards.

Internships will measure the student outcomes in a real world environment through feedback from internship supervisor.

*The average grade for students during the spring 2015 semester was 87%.*

**Follow-up**

The data will be evaluated to improve teaching techniques

The data will be evaluated to help us remain up to date with technology changes.

*The results show no need to make any adjustments at this time.*

**Budget Justification**

Update textbook to include changes in technology

Update classroom equipment to keep pace with changes in technology

*We are planning to move HVAC to the new Energy House Training Facility in the fall of 2015 to enhance the space to accommodate commercial applications. ( This is again delayed)*

*There are no additional budget request or textbook upgrades required at this time.*