Department Annual Report

2012-2013

Air Conditioning, Refrigeration, and Heating Technology

912/924

Document Prepared By:

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Department Information

Current year goals

Receive re-accreditation from PAHRA.
Re-name the program to HVAC/R.
Re-carp all of the classes to incorporate new “HVA” prefix.
All of the department goals were met. The HVAC/R program has been re-accredited for 5 years. The program name and class prefixes have been changed for the 2013-2014 school year.
The program will explore other accreditation organizations when the current 5 year certification expires.

Goals for next year

Recruit students to the program. We will continue to connect with industry partners as well as the KCTC program to increase program enrollment.
Incorporate Hydronics into the HVA250 course curriculum.
Continue to progress towards an internship class or program in HVAC/R.
Begin the development of a Geo-Thermal class.

Internal collaborations and partnerships

The HVAC/R program is working with the Training Solutions area, in the area of Geothermal Heating. Once established the credit program can be enhanced in this area as well.

External collaborations and partnerships

Continue to work with the advisory committee to keep the program content relevant to the area contractors.

Departmental needs for support from other departments within the college

Continued support from admissions and counseling offices with scheduling students.

Program accreditation Updates

Program has been re-accredited from PAHRA, for the next 5 years.

Description of departmental advising plan and outcomes

The technology area faculty are the best advisors to our student since they know what will be required of the students in industry. Faculty advise students during their office hours as well as during class periods, where appropriate. The department advising plan is on the webpage at grcc.edu/appliedtechnology The department is using Mydegreepath as an advising tool.
Updates About Student Organizations and Achievements

Jason Olson received a $2000.00 Rees Scholarship from AHRI to assist with his cost of education.

Other department updates

Held Skills USA competition in the GRCC lab.
Class field trip to Amway.

Faculty & Staff

Departmental Professional Development Activities (Contractual Obligations for Departmental Faculty Development/6 hours)

The department learning activities consisted of the following.
Margaret Sesselmann provided training on the new carp format being used currently at GRCC.
Lynnae Selberg and Erin Busscher provided training on the use of My Degree Path and how we can use the program to assist students with their academic plan.
Two representatives from Amatrol provided training on their E-learning products for many of the technology areas. We have requested a site license for the upcoming school year and will implement their product into more areas.

Faculty Professional Development Activities- Year End Summary

Don Steeby attended a train the trainer program from IGHPSA. He is now a certified examiner for that organization.
Don Steeby attended an Education and Training conference through the HVAC Excellence organization.
Ron Stevenson attended the HVAC Education Conference in Colorado Springs CO.
Ron Stevenson earned a certificate in Instructional Design from Walden University, this is a part of his Master’s Degree program.
Both instructors attended Duct Sizing school to be certified to teach Duct Board Fabrication.

Faculty Development Plans for Upcoming Year

Don Steeby is beginning a second Master’s program in Energy and Sustainability.
Ron Stevenson will be working towards his online certification at GRCC.
EOL/Release Time Work

N/A

Faculty & Staff Accomplishments/Awards

Don Steeby attended a train the trainer program from IGHPSA. He is now a certified examiner for that organization.

Ron Stevenson earned a certificate in Instructional Design from Walden University, this is a part of his Master's Degree program.

Both instructors attended Duct Sizing school to be certified to teach Duct Board Fabrication.

Program Data - Perkins Indicators

5P2: Student Participation in Nontraditional Field

Did not meet standard in the 5P1 category. The HVAC field is a male dominated field, females are encouraged to attend the program.

2P1: Credential, Certificate, or Degree Attainment

Did not meet the state standard, although the document did say we met the standard.

5P3: Student Completion in Nontraditional Fields

Did not meet standard in the 5P2 category. The HVAC field is a male dominated field, females are encouraged to attend the program.

4P1: Student Placement

Data indicated 100%, but did not meet the standard?

3P1: Student Retention and Transfer

Exceeded the state standard.

1P1: Technical Skills Attainment

N/A

Summary
The department will continue to reach out to females and explain the benefits of the program. I believe the data collection methods should be examined, I suspect placement data is weak and most WFD programs score better than the data that is being reported. Suggest a question regarding employment be placed on the graduation audit form, it is possible that we would get more information that in that way.

**Curriculum**

**Course Improvement Projects**

HVA250 will incorporate Hydronics as both a lecture section and lab activities.

**Program Improvement Projects**

N/A

**Course Document (CARP) Updates completed this year**

HVA110, HVA111 HVA121, HVA128 HVA135, HVA136 HVA174, HVA221 HVA230, HVA246 HVA250, HVA275 and HVA276

**Assessment of Student Learning**

*Please answer the questions below for each assessment project that you are working on this year. If you have more than one project, simply cut and paste the headers for each section below, in order to create a report for each.*

**Program Learning Outcome(s) assessed this year**

Students will be able to identify and use experimental procedures in equipment troubleshooting. (Critical Thinking ILO)

**Measures of Student Learning**

- Develop a troubleshooting procedure for a given furnace.
- Inform students on the expectations for success in the troubleshooting procedure.
- Train students on the proper troubleshooting procedure.
- Observe the student’s troubleshooting procedure.
- Grade the success of each student’s outcome.
- Record scores for each student.
- Observe and study the data related to success rates.
- Implement recommendations on how to improve student’s outcome scores.

**Initial Data and Findings**
24 Students were tested on 4 different units, each having a different degree of difficulty.

The students were graded on 3 criteria:

1. Did they find the problem and fix it?
2. How much time did it take?
3. Was the written service report for the problem clear and understandable?

The results were:

Problem #1 – Highest degree of difficulty: 16 students tested, Highest time taken = 60 minutes, Lowest time = 7 minutes. Average time = 27 minutes.
Problem #2 - 16 students tested, Highest time taken = 50 minutes, Lowest time = 5 minutes. Average time = 18 minutes.
Problem #3 – 18 students tested, Highest time taken = 30 minutes, Lowest time = 10 minutes. Average time = 10 minutes.

Problem #4 – Lowest degree of difficulty: 16 students tested, Highest time taken = 35 minutes, Lowest time = 5 minutes. Average time = 17 minutes.

Curricular or Pedagogical Changes Implemented

Results: Overall progress was noted over last year’s study due to the additional hands on training that was implemented before the testing procedure was run. Students who typically scored higher on exams and classroom work took less time to solve the problems. Most of the results were predictable.

Data and Findings (post improvement/change)

As a result of last year’s exercise, more time was taken to explain the process for solving problems and more one on one troubleshooting procedures were implemented. This year’s students were better prepared for the assessment and as a result, they did perform better than last year’s cohort.