

INSTITUTIONAL ASSESSMENT REPORT

HEATING, REFRIGERATION AND AIR CONDITIONING TECHNOLOGY / 2013

Department's Relationship to the College Mission and Strategic Plan

(completed Spring semester or on accreditation cycle)

In a paragraph or two, discuss how the department's work carries out the Mission and Strategic Plan.

The Heating, Refrigeration, and Air Conditioning Technology (HVAC) department supports the mission and strategic plan of the college by providing students with the skills necessary to be successful in the industry. These skills include technical, hands on, and interpersonal skills needed to be a success in the trade. In the 2012-2013 school year the department achieved HVAC Excellence for the maximum six year period.

Students are encouraged to obtain an Associate of Applied Science degree in order to have a more rounded educational experience. They are advised to take electives that will enhance their employability.

Summary of Departmental Activities, Assessment and Use of Results

(completed Spring semester or on accreditation cycle)

(may include process flowchart)

Provide a brief overview of major accomplishments since the last review and how assessment results have been used to improve services/learning outcomes.

The HVAC department was accredited by HVAC Excellence in March 2013. This accreditation is recognized nationally for quality instruction, equipment and facilities. Employers recognize the quality and training of students who graduate from institutions with HVAC Excellence accreditations.

The accreditation process included a self-study that inspired both curriculum and facilities changes. The on-site team was impressed with our program but did make several recommendations to further enhance the Jefferson College HVAC program, they included:

- 1) Wireless technology for new equipment purchases (2015)
- 2) A large mini-split system (uses wireless technologies) (2015)
- 3) Use of clicker technology in the classrooms. (initiated)
- 4) Additional course offerings for green technology (Solar Hot Water course being developed for Spring 2014, Energy Auditing to be developed for 2015)

- 5) Addition of a second full-time instructor to provide more continuity of instruction. (TBD based on available resources)
- 6) All instructors join HVAC educational group on LinkedIn (completed)

Internal and External Data Collection and Analysis

(completed by Fall semester or on accreditation cycle)

Gather and analyze relevant internal and external data (link to data).

Faculty Indicators for Heating, Refrigeration, and Air Conditioning Technology--(HRA), (School Years 2008-2013) School Terms 200901 Through 201303 (Summer 2008 through Spring 2013)

Number of Course Sections Taught	Total Students	Attrition Number ("W" Grades)	Attrition Percent	Student Credit Hours Earned	Average Students	Average GPA	Annualized 5-Year Program FTE
188	2,276	48	2.1%	9,512	12.1	3.171	63.4

Notes: Attrition % represents the number of "W" grades conferred as a percentage of ALL students.

Annualized Program FTE is the number of graded credit hours divided by 150 (30 hrs/yr for 5 years).

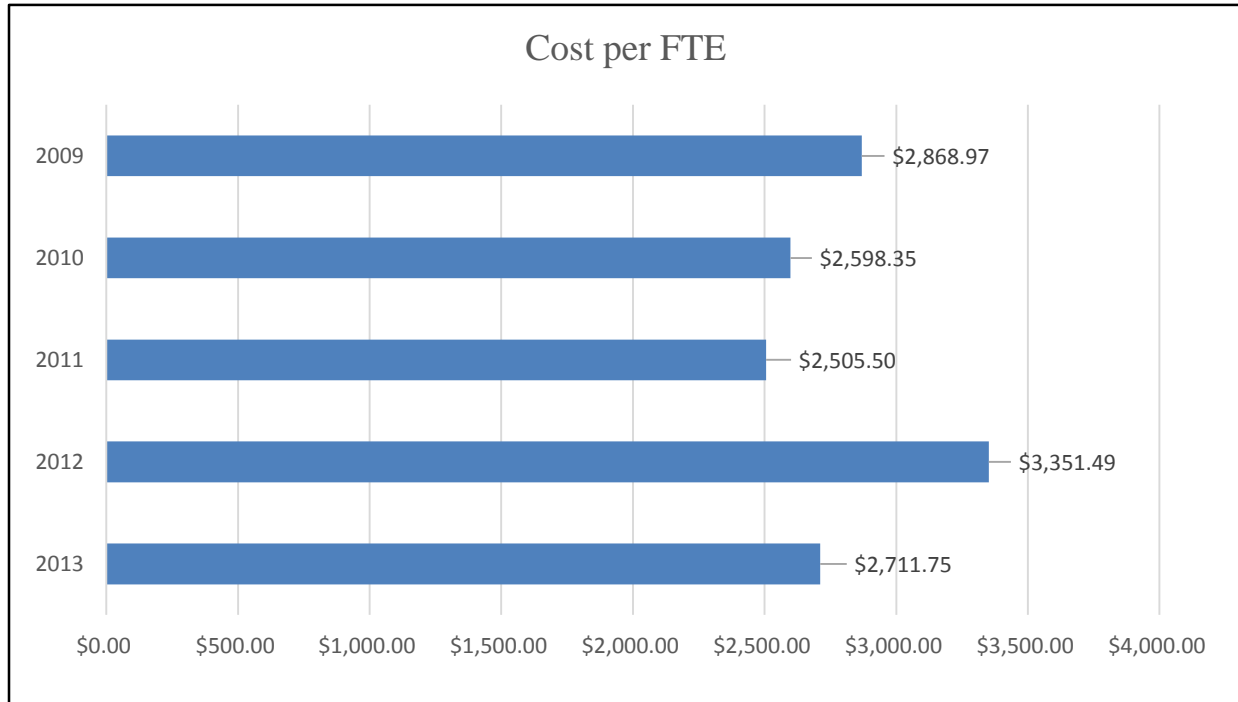
Heating, Refrigeration, and Air Conditioning occupational outlook data for Missouri, as well as the St. Louis region, shows substantial growth for the period of 2010-2020. Using data provided by Missouri Economic and Research Information Center (MERIC), the following chart indicates employment and salary expectations.

Missouri	Employment		Change 2010-2020		2010-2020 Openings			Mean Annual Wage
Title	2010 Estimated	2020 Projected	Numeric	Percent	Growth	Replacement	Total	
Heating, Refrig. & AC	4,853	6,478	1,625	33.48%	1,625	858	2,483	\$41,081
St. Louis								
Heating, Refrig. & AC	1,723	2,194	471	27.34%	471	305	776	\$47,944

Annual Cost per FTE and Trend Analyses
(completed by Fall semester)

Provide cost per FTE and analyze for the period being evaluated.

Year	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Credit hours	1,675	2,515	2,295	2,029	1,925
FTE	55.83	83.83	76.50	67.63	64.17
Program cost	\$ 160,174.38	\$ 217,819.35	\$ 191,670.99	\$ 226,661.35	\$ 174,012.70
Cost per FTE	\$ 2,868.97	\$ 2,598.35	\$ 2,505.50	\$3,351.49	\$ 2,711.75



SWOT Analysis
(completed by Fall semester)

Using the data collected and analyzed, complete a SWOT analysis. Reference and link data for each.

<p style="text-align: center;">Internal Strengths</p> <ul style="list-style-type: none"> • HVAC Excellence accreditation • Strong enrollment • Low cost to students • Good facilities • Strong, supportive Advisory Committee 	<p style="text-align: center;">Internal Weaknesses</p> <ul style="list-style-type: none"> • Need for second full-time instructor • Some equipment is in need of replacement
<p style="text-align: center;">External Opportunities</p> <ul style="list-style-type: none"> • Establish an internship program • Add green technology to curriculum • Expand marketing for program • Purchase new equipment • Expand ATS to include high school juniors 	<p style="text-align: center;">External Threats</p> <ul style="list-style-type: none"> • Increased marketing by Rankin, Vatterot, and other for-profit schools that are starting HVAC programs

External Accreditation (if applicable)

Link to accreditation report.

HVAC Excellence

March 2013 6 year accreditation

<https://docs.google.com/file/d/1R264ISQDlhWs0L3Z3-4d7WtAcV-AjuIENSoX-tYLbCoZ8GxIK-hMAU9dXe1u/edit?usp=sharing>

See attachment

DEPARTMENTAL ACTION PLANS for *HVAC* / 2013

Org	Date	Strategic Aim	Objective	Action Plan	Metric	Benchmark	KPI	Additional Resources Required	Timeframe	Responsible Party(s)	Status
56509	Sep 17, 2013	1,2	1,6,10,16	Develop Solar Hot Water class			3	NA	2014	William Kaune	
56509	Sep 17, 2013	1,2	1,6,10,16	Develop Energy Auditing class			3	NA	2015	William Kaune	
56509	Sep 17, 2013	1,2	1,6,10,16	Purchase energy auditing equipment			3	NA (enhancement)	2015	William Kaune	
56509	Sep 17, 2013	1,2	1,6,10,16	Purchase additional brake for sheet metal			3	NA (enhancement)	2015	William Kaune	
56509	Sep 17, 2013	1,2	1,6,10,16	Allow high school to start in junior year through ATS			3	NA	2015	William Kaune	
56509	Sep 17, 2013	1,2	1,2,3,10	Add 2nd full-time instructor			3	Salary & benefits \$60k	When possible	William Kaune	
56509	Sep 17, 2013	1,2	1,6,10,16	Marketing program presentations at high schools			3	NA	In progress	William Kaune	
56509	Sep 17, 2013	1,2	1,6,10,16	Internships with local HVAC companies (non-credit)			3	NA	In progress	William Kaune	

Evaluation

- Follow-up report required by: October 1, 2014
Comments: (Date)

Approvals

March 25, 2014
Date