

Assessment, Improvement, Measurement (AIM): 04/09/2013

Plan Year: 2011-2012

Unit: Engineering and Electronics Technology

Coordinator(s): Kevin Dunn, Karman Wheeler, Paul Turner

Reviewer: Paul Turner

Program Health Review: Use the Annual Program Health Review to evaluate student achievement and, if warranted based upon analysis of the results, make program changes to improve student achievement.

Identify expected student learning outcomes, assess the extent to which these outcomes are achieved, and provide evidence of improvement based on analysis of the results.

Measure Text: PROGRAM HEALTH REVIEW - LEVEL 1

1. Program Health Review - Refer to the attached Annual Program Summary for longitudinal information related to enrollment, graduates, employment, employer and alumni satisfaction, and licensure pass rates.
2. Student Learning outcomes

Three student learning outcomes – Plan an assessment for each outcome identified, and assess the extent to which these outcomes are achieved, and provide evidence of improvement based on analysis of the results.

Results: Program Coordinator:

1. Strengths of the Program - The Engineering Technology program continues to maintain strong enrollment and graduated approximately 16 AAS students this year. Our advisory committee continues to support the program and the current mission. We have increased enrollment from 72 students (09-10) to 124 students in 10-11.

Equipment has been purchased through Perkins funding to maintain industry standard equipment training. The new Engineering and Electronics curriculum has been implemented. We have also added a capstone course where students will review the materials in the program and take a national test (NOCTI) for assessing student outcomes.

2. Items Requiring Continued Attention –Our retention rate is still low but has increased slightly to 45%. This is up from last year's 41%. For the second year we have not observed this drop rate in the courses. We will work with IR to identify where the drops occurred and monitor future retention rates.

We also saw a decrease in employer satisfaction to 50% this year. After looking at the survey results, it appears there is a discrepancy in the survey and how the question is related. The low survey said that the employee scored a 1 in "technical or job related knowledge at the time of hire". We have no way of knowing if that employee was actually trained in the area in which they were hired. A student may have been trained in computer servicing but been hired into an industrial position. The industrial employer would have to rate the student as having no skills since they were not trained for that area.

3. Document and provide evidence indicating how last year's program review resulted in improvements in the program/department. Retention has increased slightly with a dedicated effort on faculty member's part to encourage students to remain with the program. After some consideration, we suspect the low retention rate is caused by students changing their major from ours to another. Since our classes do not see a high rate of students not returning or withdraws we are continuing to monitor students from semester to semester for retention.

We have also increased out student satisfaction score from 77.8% to 100% with more students responding. We have worked hard to ensure students are learning the skills required by industry and to give them the ability to learn new skills when needed.

Assistant Dean Comments

I agree with the evaluation of the Coordinator. The program enrollment continues to be excellent. The program continues to remain viable with good numbers of graduates in the reporting period. We have been able to meet our equipment repair and replacement needs for the reporting period.

The student learning outcomes have all been met. Three of the outcomes were met with 100 % of the students achieving 80 % or higher on the projects. The RL and RC project outcomes was met with 93.8 % of the students scoring 80 % or higher. We will continue to use this year's findings as a guide to next year's targets.

The student retention rates are low but are increasing from last year's levels. As suggested by the Coordinator this could be due to student migration from one of the MIT programs to another as they progress through their program of study. The student satisfaction rates have returned to 100 % from last year's levels. Employer satisfaction rates are a concern and will be monitored in the coming year.

AD Comments: The Strengths of the Engineering Technology program at Bluegrass have been well outlined by the Coordinator. The program continues to enjoy high enrollment (124 (TEDs Unofficial 155)) according to the unduplicated headcount in the TEDS data, up considerably from the last reporting period. Job Placement rates decreased in the reporting period however of late we are seeing indications of increased employment opportunities in the region despite the sluggish economy. The manufacturing base continues to be strong in the local area and normal employee attrition, retirements, and limited expansion are predicted to increase employment opportunities for our graduates. According to the recently conducted 2011 Annual Manufacturing Wage and Benefits Survey conducted by the Kentucky Education and Workforce Development Cabinet's Department of Workforce Investment and the Kentucky Association of Manufacturers Fifty-eight percent of Kentucky manufacturers surveyed said they are planning to hire between one and 19 employees in 2012, up one percent from last year's results. Employer satisfaction has always been high and continues to be so during the period. Total graduates for the period are far above the number CPE requires as a measure of program viability. Total certificates, diploma, and degrees

awarded by the Engineering and Electronics program have always been high, with the program granting a total of 82 in 2009-2010 and 82 again in 2010-2011, according to the data up loaded to AIM. According to page 178 of the KCTCS Student Success section of the 2010 2011 KCTCS Factbook 247 credentials or 7.71 percent of the total credentials issued by BCTC were issued by Engineering Technology in the 2009-2010 school year, which are the latest KCTCS data available. Student retention numbers are of some concern. There are at least two viable explanations for the decrease seen in the reporting period. The MIT division consists of Electrical Technology, Engineering and Electronics Technology, and Industrial Maintenance Technology. Roughly one half of MIT students earn degrees from two of the programs and one quarter to one third of the students complete the requirements for all three degrees. As they are awarded credentials for one program they are often reclassified as Undecided rather than under the next MIT program. A large number of the students in the Manufacturing Industrial Technology Division and at the college have been listed under incorrect academic plan codes for some time. When the college assigned advisors this past semester MIT division found that one quarter to one third of our students had incorrect plan codes. Now that we have assigned advisors we expect this to be less of an issue in the future. We will continue to monitor the percentages in the coming reporting period. The Engineering Program curriculum has been revamped by the statewide program curriculum committee with input from several members of the BCTC program faculty. The updated curriculum will go into effect in the fall of 2011. Items of concern are being subjected to further examination and will be closely scrutinized in the course of the coming year in order to determine what is necessary to bring us back into full compliance with our minimum standards. The TEDS data may hold the answer to these seeming anomalies. The program coordinator has used the data from last year's evaluation to initiate changes which will improve program efficiency. The program has a number of dedicated, caring, and seasoned faculty members who have worked to assure student competency. In the reporting period the Engineering program added a Robotics Option to the Degree, a Diploma, and a Certificate. Eighteen credentials were earned by the first graduates in spring 2010. The program applied for permission to offer four KCTCS approved Alternate Energy Certificates during this last reporting period. This will add to the number of credentials available to the students in the Manufacturing Industrial Technology division at BCTC.

Dean Comments: In agreement with AD's comments. Good numbers of students and high demand from industry.

VP Comments: The Coordinators are to be congratulated for maintaining such high quality in this program, which is a model in the state.

Target Results: Met

Findings:
