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

Plan Year: 2011-2012 Unit: Electrical Technology

Coordinator(s): Bobby Royalty Jr, 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 Graduating students are being recruited and hired even before graduation, and the students are in great demand. Local industries are contacting instructors and coordinators, when searching for new hires. Students numbers are average, but remaining stable. The division safety committee has identified equipment and materials needed to enhance student and lab safety and are in the process of procuring these items to be used in the coming semester. Instructors are pursuing training in new technologies, and enhancing the labs with newer and inovative equipment such as; controllogix programmable logic trainers, and timer modules for the motor control 1 lab. Past assessments of students in motor control and rotating machines has identified needs for newer technology, and they are currently being procured; this will allow more standardization of our equipment in these labs. Pursuit of green, and renewable technologies is ongoing and is awaiting money and space that has been requested to the academic dean and vice-president. A plan is being developed by the state curriculum committee for electrical technology to use a national assessment instrument to evaluate finishing students before graduation; either NOCTI or NCCER certifications. These assessments will better identify deficiencies or improvements needed for our program instruction. Communication between the program coordinator, and instructors teaching motor controls, and rotating machinery has improved, and more a more comprehensive means of assessment has been discussed that should result in better reporting of progress by the student. A hybrid class that was started 3 semesters ago at Danville (Industrial Safety) is continuing and has improved student knowledge of electrical hazards and has taught them to assess electrical, and worksite hazards, and how to select proper PPE, and communication of affected persons.
- 2. Items Requiring Continued Attention Space and storage is still a problem, un-used program materials are being scrapped, and thrown away for lack of space. Some lab instruction has been restricted, or not performed because tasks cannot be simulated as in the field. This will be a problem if NCCER certifications are selected by the state curriculum committee as a final assessment. This may cause the electrical technology program to eliminate electrical construction out of the program offerings. Training of instructors in newer technologies is needed, and should be discussed in division meetings. to come to a resolution of this need. Industry needs must be reevaluated, or better communication established to improve employer satisfaction of our student hires, and open new avenues of employment for our program graduates.
- 3. Document and provide evidence indicating how last year's program review resulted in improvements in the program/department. Evaluation of our motor control, and rotating machine labs was adequate, but could be greatly improved. Communication between instructors and the coordinator for better evaluation has been planned, and a more comprehensive assessment is being done to identify specific tasks, rather than a survey of all course competencies. The last assessment did not concentrate on the objectives planned, and parts of the final exam where used to calculate the result. These results identified 25% of the students doing excellent 90% or above on the tasks of identifying proper motor selection for an application, 60% performing above average 80 to 90 % and the remaining 15% doing poorly or below average 60- 79%. The future assessment will be in the form of a rubric to cover the specific objectives and or competencies to be measured. This instrument will include performance with both written and observed task performance.

Assistant Dean Comments

I am in complete agreement with the comments of Mr. Bobby Royalty the Coordinator for Electrical Technology. The health of the program is good. The instructors are all very knowledgeable individuals with many years of Industrial and Commercial experience as well as extensive teaching experience. They conduct training for local business and industry on a regular basis and offer electrical classes for several other programs at BCTC including Engineering, Industrial Maintenance, HVAC, and Automotive Technology. The enrollment numbers for the program were very good during the reporting period. The Electrical Technology program produced 283 credentials during the reporting period. This equates to 7.66 percent of the total 3,694 credentials awarded by Bluegrass Community and Technical College for that year. Student satisfaction was excellent. Employer evaluation of student competency did drop in one measure. We will continue to monitor this throughout the next reporting period. Employment rates did drop during the reporting period but this may be due in part to the ups and downs the national economy has seen in the last several years. Employment has picked up in recent months and all indications point to an increase in employment in the region in the next several months. We will continue to monitor the employment rates in the next reporting period. We were approved to offer four Alternate Energy Certificates during the reporting period. Due to the state budget for the upcoming biennium the college faces a shortfall in

funding. Because of this we were unable to secure funding for the equipment needed for the new program or the training for instructors. We are currently exploring alternate means of funding for training. I feel the Student Outcomes of Instruction selected for the Electrical Technology program were appropriate and did highlight areas of the program that were in need of improvement.

AD Comments: The Electrical Technology program was one of the original programs first offered in the mid-1960s at the former Central. It continues to be one of the most popular offerings at the college almost fifty years later. The program instructors all possess the highest academic, professional, and technical credentials available in their field. They have many years' experience in business and industry as well as teaching. Student satisfaction was rated at 100 percent among recent graduates from the program during the reporting period. The program enrollment continues to be strong according to the unduplicated enrollment figures found in the TEDS data (115(TEDs Unofficial 144)) for the period. The number of graduates for the period far exceeded the minimum required by the Council on Postsecondary Education for program viability. The total certificates, diplomas, and degrees awarded by the program have always been high with 105 being issued in 2009-2010 reporting period and 122 being issued in the 2010-2011 period according to the data up loaded to AIM. According to page 178 of the KCTCS Student Success section of the 2010 2011 KCTCS Factbook 242 Credentials were issued by Electrical Technology in the 2009-2010 school year, which are the latest KCTCS data available. Employer satisfaction rates have dropped somewhat during the reporting period. Employer satisfaction with Technical Education Competencies was 100 percent the Employer satisfaction with the General Education Competencies was 50 percent. The levels will continue to be monitored during the next reporting period. Program job placement rates which had been on the rise for the last several years have decreased during the reporting period. This may be due in large part to the slowdown in housing and construction starts due to the weak economy. Construction electricians like other trades in the construction industry saw a slowdown in overall business activity. 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. The program suffers from lack of space at the Danville campus but this is a problem common to all technical programs offered at that location. Long term plans call for an additional building which will alleviate the problem but this solution is several years in the future. Short term solutions to the problem of crowding have been focused on increasing the number of evening and summer courses offered by the division to allow more flexibility in programming. The division requested and was granted funding to replace the obsolete Allan Bradley Rockwell International SLC500s with up to date Control Logix1500 which will bring the labs back up to date and stay current with training needs for a number of years into the future during the reporting period. 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 appropriate 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. The Coordinator and Assistant Dean will continue to monitor the scores closely in the coming period in an effort to bring the program back into full compliance with the minimum standards established.

Dean Comments: Agree with AD's statements. Strong program at 2 BCTC campuses, Qualified, dedicated faculty who continue to work to improve student retention and student outcomes.

VP Comments: The Coordinators and Assistant Dean are to be congratulated for embracing changes in this program while maintaining quality. They will continue to be challenged as the VLI program may come on line. I have confidence in their abilities to handle this newest challenge.

Target Results: Met

Findings: We will present the findings to the faculty of the MIT division and the members of the Advisory Committee for analysis and review.