# Program Outcome Assessment Summary Report

**Name of Program:** Mechanical Design Technology  
**Date:** 5/7/12

| Program Outcome Assessed | 1. Prepare detail and assembly drawings for documentation of mechanical components and products  
|                          | 2. Create CAD geometry, parts, and assemblies  
|                          | 3. Design mechanical components and products  
|                          | 4. Analyze mechanical engineering problems  
|                          | 5. Select purchased parts |

## Assessment Process/Design

- The identified program outcomes are infused throughout the entire curriculum. Students build on the skills and knowledge obtained through their coursework and apply this understanding to a 4th semester course, “Machine Design Problems (WBL).”
- From the onset of the course, students know what is expected of them and what they need to achieve in order to graduate from the program.
- A variety of assessment tools are used at the course level (i.e., portfolios, rubrics, documentation, demonstrations, presentations, etc.). Common assignment tools are frequently designed, updated and utilized by Mechanical Design Technology (MDT) program instructors. The identified MDT program outcomes are reflective of the state-wide curriculum, which were developed with input from MDT instructors state-wide. The MDT program outcomes were incorporated into the Technical Skills Attainment (TSA) initiative, which is a continuous work in progress.

## Results and Analysis

- Six 2nd year MDT students were involved in the TSA one month before graduation. The scoring panel consisted of four MDT Advisory members from industry. All six students presented individually for 15 to 20 minutes to demonstrate proof of their mastery of the MDT program outcomes. Feedback for the students was provided through panel comments and a met/not met score sheet. An overall score determined a pass/fail outcome. All six students received a pass overall score.
- Comments included to have a longer time to present, more documentation purchased parts, more individual and assembly drawings with complete bill of materials, more documented part tolerances, and more documented hand calculations with analysis, to name a few.

## Action Plan Relative to Results

- More time will be provided for the individual presentations.
- Documented investigation of purchased parts will be required.
- More focus on detailed part and assembly drawings throughout program.
- Complete documentation of bill of material (BOM) items required.
- Incorporate more load and stress analysis in final documentation.
- Part tolerances will be included in drawings and justification for each documented.
- A critical thinking element will be added and documented in the final portfolio.

## Results of Action Plan Implementation

## Closing the Loop