

Bluegrass Community and Technical College
2010-2011 Technical Programs - Assessing Student Learning Outcomes: A Snapshot

Machine Tool

2010-11 Student Learning Outcomes

Activity	Date accomplished	Brief Description
1. Identification of Student Learning Outcome - Identify the outcome that you plan to measure.	8/16/2010 (Lex) 9/2/2010 (Dan)	Danville - Students will be able to produce an exemplary product using a variety of machine tools. Lexington - Students will be able to successfully (at least 90% on rubric evaluation) produce a operating Turner's cube that includes a small radii on cube edges using six different planes.
2. Planning of Assessment - Determine appropriate assessment methodology and criteria for success - benchmarks.	8/16/2010 (Lex) 9/2/2010 (Dan)	Danville - Evaluation using a rubric to show all students will score at least 90% based on functionality, usability, and finish of the final product. Lexington - Students will score at least 90% on the rubric used to evaluate the cube.
3. Assessment - Perform assessment	November, 2010 and April 2011 (Dan) Fall, 2011 (Lex)	Danville - 90% of the students will produce a usable product. Lexington - Students will start in Spring 2011 with assessment in Fall 2011
4. Review of Results - Gather and summarize data collected. Analyze and document results.	December, 2010 and May, 2011 (Dan) December, 2011	Danville - 100% successful completed parts to blueprint tolerances. Lexington - To be assessed in Fall 2011
5. Use of Results for Improvement - "Close the Loop"/use the results to make improvements.	December, 2010 and May, 2011 (Dan) December, 2011 (Lex)	Danville- Students were successful in part completion but continued use of this type of assignment/assessment is necessary for them to understand assembly components. Need to improve "tolerancity" to meet specifications along with more emphasis on their own parts QC before it is reviewed by the instructor. Lexington - Carryover: to be assessed in Fall 2011
Activity	Date accomplished	Brief Description
1. Identification of Student Learning Outcome - Identify the outcome that you plan to measure.	8/16/2010 (Lex) 9/2/2010 (Dan)	Danville - Students will identify and use precision measuring instruments and tools. Lexington - Students will be able to develop an air driven motor, incorporating blueprint readings, use of machine tools, understanding print specifications and selecting appropriate materials to developing a working model.

<p>2. Planning of Assessment - Determine appropriate assessment methodology and criteria for success - benchmarks.</p>	<p>8/16/2010 (Lex) 9/2/2010 (Dan)</p>	<p>Danville - Students will use CMM And other meteorology equipment, submitting a spec sheet listing sizes of their machine parts. Faculty will measure parts on CMM machine comparing their assessment with students assessment. All students will score at least a 95% on the evaluation form. Lexington - 1. Using blueprint as rubric, 90% of students will meet tolerance specifications of individual parts. 2. Students will attend clinicals with the appropriate components in the clinical evaluation form being used for the assessment. 90% of the students will achieve a G or E on the evaluation form. (Note: The evaluation form is based on a list of student goals defining job description/student learning outcome)</p>
<p>3. Assessment - Perform assessment</p>	<p>April, 2011</p>	<p>Danville - Evaluation form comparing spec sheet submitted by student to faculty's assessment Lexington - Use blueprint as rubric, and final clinical evaluation described above. 90% of the students will score 90% or higher in the designated areas on the evaluation form.</p>
<p>4. Review of Results - Gather and summarize data collected. Analyze and document results.</p>	<p>May, 2011</p>	<p>Danville - The students completed their CMM project submitting their spec sheet, which was evaluated to have a 93% satisfactory completion rate for parts assessed. Lexington - All of the students scored 90% or higher on the project.</p>
<p>5. Use of Results for Improvement - "Close the Loop"/use the results to make improvements.</p>	<p>May, 2011</p>	<p>Danville - Students will be given one week more time to complete CMM spec sheet in 2011 fall, which should increase completion rate. Lexington - Students will be evaluated in 2011-2012 with the students being able to incorporate blueprint readings, use of machine tools, specs., and selection of materials in developing a "working" air driven motor on their first attempt.</p>
<p>Activity</p>	<p>Date accomplished</p>	<p>Brief Description</p>
<p>1. Identification of Student Learning Outcome - Identify the outcome that you plan to measure.</p>	<p>8/16/2010</p>	<p>Danville - Students will interpret machine tool working drawings, sketches, and part prints. Lexington - Students will be able to demonstrate blueprint reading, use of esprit, and the operation of CNC machines and lathes.</p>
<p>2. Planning of Assessment - Determine appropriate assessment methodology and criteria for success - benchmarks.</p>	<p>8/16/2010</p>	<p>Danville - Students will be provided orthographic prints and find dimensions through questions and answers. All students will score 95% or higher on the assessment Lexington - Given a 3D project, students will utilize a blue print and use of esprit to develop a 3D model using CNC machines (CNC mill and lathe).</p>

3. Assessment - Perform assessment	April, 2011	Danville - Orthographic prints will be used Lexington - A blue print rubric will be used with 90% of students successfully meeting blueprint tolerance.
4. Review of Results - Gather and summarize data collected. Analyze and document results.	May, 2011	Danville - The students completed projected sampled with a 87% efficiency rate in beginning courses and 100% efficiency rate in 3D programming courses. Lexington - 100% met blueprint tolerance on 3D project and used solid works to develop a model (partnership with CADD).
5. Use of Results for Improvement - "Close the Loop"/use the results to make improvements.	May, 2011	Danville - Students will be given tighter time lines to complete parts that are being produced by prints provided. This should cut down on procrastination in part programming and machine setup. Lexington - Plans will be made to incorporate Espirit tutorial to enhance the instructor's and students' understanding of the software.