

Annual Report for Assessment of Outcomes (For Degree, Certificate or Core Outcomes)

Submitted : *July 19, 2012*

SAC: *Computer Aided Design and Drafting*

Outcomes Assessed: *Computer Aided Design and Drafting less than one year Certificate*

1. Describe changes that have been implemented towards improving students' attainment of outcomes that resulted from outcome assessments carried out in the previous academic year.

(Information provided here may be referenced, inserted into or summarized in Program Review 2.C.iii (for Core Outcomes) or 6.B.iii (for CTE Degree and Certificate outcomes).

1. Results of 2010-2011 Professional Competence outcome addressed Certificate Outcomes #1, #2, #3 and 5. #1 - Use current Computer Aided Design and Drafting technology to design, and subsequently print, two-dimensional industry standard drawings. #2 – Use a variety of advanced parametric Computer Aided Design software applications to design, and subsequently print three-dimensional parts, assemblies, and sub-assemblies. #3 – Use American National Standards Institute guidelines when designing and producing drawings. #5 – Apply a generalized understanding of design principles involving trigonometry and geometry when solving drafting design problems. The original assessment tool used a process of students submitting either an electronic file of assignments, or a printed/plotted paper copy of an assignment. The instructor would make corrections and return the assignment to the student. The concept of the assessment would be for the student to learn from the omissions, or corrections that were necessary, and apply that to the next assignment.

No changes were made in the original format. It continues to be used in the Certificate Program.

2. Identify the outcomes assessed this year, and describe the methods used.

What were the results of the assessment (i.e., what did you learn about how well students are meeting the outcomes)?

(Information provided here may be referenced, inserted into or summarized in Program Review 2.C.i& ii (for Core Outcomes) or 6.B.i & ii (for CTE Degree and Certificate outcomes)

a. Describe the method(s) you used.

For this academic year 2011-2012 the Self Reflection outcome – Assess, examine and reflect on one's own academic skill, professional competence and personal beliefs and how these impact others were assessed.

In the Computer Aided Design and Drafting Certificate there were 35 – 38 students on average enrolled in the program. This required two sections of all the courses to be offered to accommodate the large number of students. In addition an added challenge was the anticipated moving of the Certificate Program from the Sylvania campus to the SE Center. Classes were offered at both locations. About 2/3 of the students enrolled in classes at Sylvania, and 1/3 enrolled in classes at SE Center.

- In all of the courses in the program students were given specific project assignments. Student work was assessed according to outcomes #1, #2, #3, #5.

- Each student would print, or plot out an assignment upon completion. The instructor would evaluate the assignment using standards of the drafting industry. At times an electronic file was submitted for assessment purposes.
- When the student received the feedback from the instructor it would be an indication of the student's ability to self-reflect on their ability to complete the assignment with professional competence and academic skill.

b. Results: What did you learn?

As a result of the assessment the students did not do as well as the aspirations we had for our students. Approximately 10 – 15% of the student work assessed did not demonstrate skills and attitudes necessary to succeed in a professional way.

For the Computer Aided Design and Drafting Certificate assessment is both objective and subjective. On the objective side we incorporate Certificate Outcome #3 - Use American National Standards Institute guidelines when designing and producing drawings. These are industry standards that address how a drawing should appear. Using correct line types, line weights, view orientation, etc. On the subjective side each instructor assesses student work as to process, and completeness, as well as timely completion of the assignment.

3. Identify any changes that should, as a result of this assessment, be implemented towards improving students' attainment of outcomes.

(Information provided here may be referenced, inserted into or summarized in Program Review 2.C.iii (for Core Outcomes) or 6.B.iii (for CTE Degree and Certificate outcomes)

Improvements to the Assessment

Outcome 1 – Use current Computer Aided Design technology to design, and subsequently print, two-dimensional industry standard drawings.

Outcome 2 – Use a variety of advanced parametric Computer Aided Design software applications to design, and subsequently print, three-dimensional parts, assemblies, and sub-assemblies.

With both of these outcomes, the SAC has determined that using a variety of certification exams offered by our software vendors; SolidWorks, and AutoCad, would result in an improvement of assessment of the students abilities. Some of our adjunct instructors have used a certification exam as a replacement for a final exam. If a student passes the certification exam, it is the equivalent of passing the final exam. This is an option available to the student. Some of the certification exams have minimal, to no cost. Other Certification exams can be prohibitive in cost to the student. The SAC has discussed the potential of a grant to cover the cost of some of the certification exams. It has also been determined that a capstone exam consisting of multiple choice, true false, and fill in the blank questions would also result in an improvement of assessment. This has yet to be implemented as an assessment tool. As a result, the SAC feels the student would have a better understanding of their abilities upon completion of the Certificate Program.

Outcome4 – Work as an integrated member of a drafting technology design team, collaborating on concepts and ideas related to a working project.

Currently the students observe this outcome as a result of the Drafting Orientation course when we visit local industries. The SAC has determined that team work projects should be incorporated into additional courses. At present students work on an assignment on their own, and may interact with other students if they need assistance. A team work approach needs to be included in an advanced course to better prepare students for entry into the drafting profession. The SAC needs to work to bring this into the course content, as it has yet to be implemented. The SAC has plans to discuss this outcome, as well as review Outcomes #1, #2, #3, and #5 this summer with full and adjunct instructors to offer a more coordinated plan of instruction and assessment.