

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

Submitted : *July 7, 2011*

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).*

Results of 08-09 Assessment of Critical Thinking addressed Certificate Outcomes 3 and 5. #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 critiquing other student projects.

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 the Professional Competence – Demonstrate and apply the knowledge, skills and attitudes necessary to enter and succeed in a defined profession or advanced academic program outcome was assessed.

In the Computer Aided Design and Drafting Certificate there were 22 – 25 students on average in each of the courses.

- Of the students enrolled in the program 13 were awarded a certificate.
- 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.

**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.

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. 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. 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.