

Bergen Community College
Assessment Report for 2008-2010

Department/Program: Technology/Drafting and Design Technology

Department Leader: Prof. Matt King

Liaison: Prof. Joshua Guttman

Assessment Project Coordinator (if not the Department Leader):

Date Submitted: 4/02/09

Program(s), if applicable (AAS, Interdepartmental, etc.):

AAS, Drafting & Design

Mission/Goal statement of the department or program:

To produce qualified design-draftspersons who, in support of architects, engineers or contractors, in diverse technical fields will be able to communicate design information by conventional pencil and sketch drafting, computer aided drafting, and oral communication. To inspire characteristics of professionalism.

SEMESTER 1: Create the Assessment Plan

Goal or learning objective being assessed:

The Students enrolled in the Fall 09 Drafting 1 classes will demonstrate the ability to dimension mechanical style multiview drawings that is compliant to industry standards.

Relevant Core Competencies: (check as many as apply)

- | | | |
|---|---|---|
| <input type="checkbox"/> Communication | <input type="checkbox"/> Quantitative Reasoning | <input checked="" type="checkbox"/> Critical Thinking |
| <input type="checkbox"/> Civic Responsibility | <input checked="" type="checkbox"/> Technological and Information Fluency | <input type="checkbox"/> Personal Skills |
| <input type="checkbox"/> Interpersonal Skills | <input type="checkbox"/> Creativity and Aesthetic Appreciation | <input checked="" type="checkbox"/> Applied Knowledge |

Means of Assessment:

There will be an expansion of the existing dimensioning lecture taught in all Drafting 1 classes to more thoroughly include the dimensioning rules and standards required in the mechanical industry. Several assignments during the semester will include dimensioning problems that will further the knowledge and experience of the students. A revision of the final exam will include dimensioning problems.

The final exam will have a series of dimensioning problems with a total value of 10 points. All of the student's exams will be examined and the specific scores of the dimensioning topics will be added up and averaged. There will be five sections of Drafting 1 offered in the Fall, with approximately 15 students per section equaling an approximate total of 75 students being assessed.

SEMESTER 2: Develop an Assessment Strategy

Criterion for success:

The criterion for success for the approximately 75 students will be to achieve an average score of 7.5 out of 10 points on the dimensioning portion of the exam.

The revised exam which will include the 10 point dimensioning problems will be given during the Spring 2009 semester without the expanded dimensioning lecture and follow up assignments. This will give "pre test" type results and allow further analysis and improvement of the expanded lecture if necessary to achieve or exceed our criterion for success.

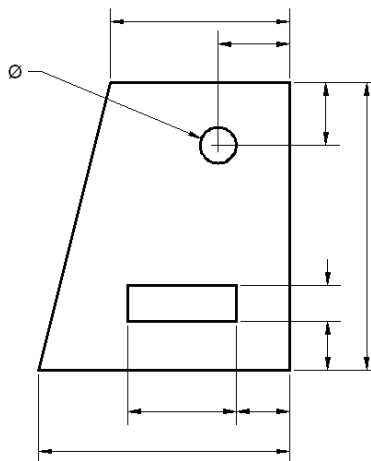
Dean's Comments: A very clear assessment outcome and rubric has been identified.

VP's Comments:

SEMESTER 3: Implement Assessment Plan & Strategy

Summary and analysis of data collected:

There were four different instructors (3 full-time and one adjunct) involved in the efforts to improve student test scores of the dimensioning portion Drafting 1 final exam. During the semester and after the dimensioning lesson, there are four additional assignments which involve placing dimensions before the final exam. The final exam featured a dimensioning problem worth 10 points, and demonstrates basic knowledge of placing dimensions to features on the perimeter and within a geometric shape. There were 10 dimensions to correctly place. Scores lower than 10 reflect either missing or incorrectly placed dimensions. A correct version of this problem is shown below.



The results of the test scores are as follows:

The first set of scores is from the Pre-test given in the spring 2009 semester. The dimensioning lesson was unchanged from years past. There were 5 sections of students taking the final exam for a total number of 66 students.

SPRING 2009

<u>Section</u>	<u>Score</u> (out of 10)
Section 1	5.7
Section 2	5.3
Section 3	6.7
Section 4	7.1
Section 5	7.5

Total average = 6.46 out of 10

The fall 2009 test scores are shown below. These scores represent a modification in the lesson plans for the dimensioning lesson. The instructors were also urged to focus more on the additional four assignments throughout the rest of the semester which involved dimensioning. There were 5 sections of students taking the final exam for a total number of 80 students.

FALL 2009

<u>Section</u>	<u>Score</u> (out of 10)
Section 1	8.2
Section 2	8.5
Section 3	6.5
Section 4	5.0
Section 5	7.0

Total average = 7.04 out of 10

Conclusion:

The Fall 2009 classes did show improvement. Our criterion for success was to achieve a score of 7.5 out of 10. Our results indicate a shortfall of this goal by 0.46 points or 6.1%.

SEMESTER 4: Reporting and Revising

Use of results:

Recommendations for improvement will be to meet with all drafting 1 faculty during the semester and review the specific common errors that are being made by the students. Follow this up by conducting a brief review in class to reinforce the correct process and hopefully prevent repeating these errors on future assignments, the final exam and higher level drafting classes.

Dean's Comments:

VP's Comments:

Update: Spring 2012

1. DFT-107 Drafting I – Improved Dimensioning skills:

Since the original assessment results, a revised lecture on dimensioning has been created using PowerPoint software and using a monitor capable of writing on the screen. This lesson is also recorded using Echo 360 capturing hardware/software which allows student to review the lesson from any computer with internet access. This new format has been used exclusively by Prof. Matt King. The results of the test scores using the same dimension problem in the original assessment show improved scores using this lesson format compared to the other instructors using the pre-existing format. The new lesson format will be shared with all instructors teaching this lesson. The results over two years and 12 sections of classes by each instructor are shown below:

Note: The scores are average from whole class. Maximum score is 10. (Number sets indicate multiple sections taught in a semester).

	<u>Prof. King(new format)</u>	<u>Prof. 2(old format)</u>
Spring '09	N/A	5.2
Fall '10	8.4, 8.2	6.0, 6.0
Spring '11	7.5, 8.6	6.2, 7.5
Fall '11	<u>7.8, 8.9</u>	<u>7.1</u>
AVG.	8.23	6.34

Note: Original assessment stated benchmark of acceptability was 7.5. We are now using the new format in all Drafting I classes and are starting to use it in other drafting courses.