

William Paterson University
College of Science and Health - Department of Computer Science

Fall 2013 – Spring 2015 Assessment Cycle
Analysis of the Program's Student Outcome Assessment Data

Program's Student Outcome: S11:

Demonstrate an ability to use software engineering principles to analyze and design large software projects.

ABET's Related Student Outcomes: (b), (c), (i).

Curriculum Committee Subgroup: Software Analysis

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A. Analysis of the Assessment Data

For the assessment period of Fall 2013 to Spring 2015, this student learning outcome was assessed in the software engineering course (CS 3500).

For this course, 20, 13, 20, and 12 students respectively took CS 3500 and 10 of them (which represents 15%) have less than adequate ability. Out of these 10 students, 8 of them were from the fall semesters, only 2 of them were from the spring semesters. It is further observed that most of the students in this category in the fall semesters were transfer students from other institutions. Perhaps the transfer students were not well prepared for software engineering. The pre-requisite of this course is CS 3420 (Data Structures).

B. Suggestions for Improvement

Do not assume all the students have the same background in data structures. When a software engineering principle (e.g., design pattern) is directly related to data structures, ask the students whether they fully understand the data structures involved. If not, do a quick review of the topics.

C. Improvement Implemented

The above suggestions have been implemented in Fall 2016.

D. List all the “performance level/frequency/percentage” tables and their sources.

a. Faculty Course Assessment Report: CS3500, Fall 2013

Data Collected: Students performance on homework assignments, project, two tests, and a final exam.

Method of Collection: There were 5 homework (17%), 3 parts of the project plus presentation (20%), exam #1 (20%), exam #2 (20%), and 1 comprehensive final exam (23%).

Performance Levels	Frequency	Percentage
Some Ability (D)	5	25%
Adequate Ability (C)	6	30%
More than Adequate Ability (B)	5	25%
High Ability (A)	4	20%

Observations: The project and presentation scores were team-based but the homework and examinations were individual work. For this class, although the projects and presentation were not impressive, many students did very well on the exams.

b. Faculty Course Assessment Report : CS3500, Spring 2014

Data Collected: Students performance on homework assignments, project, two tests, and a final exam.

Method of Collection: There were 5 homework (17%), 3 parts of the project plus presentation (20%), exam #1 (20%), exam #2 (20%), and 1 comprehensive final exam (23%).

Performance Levels	Frequency	Percentage
Some Ability (D)	1	7.7%
Adequate Ability (C)	7	53.8%
More than Adequate Ability (B)	2	15.4%
High Ability (A)	3	23.1%

Observations: The project and presentation scores were team-based but the homework and examinations were individual work. Although 3 students were in the high ability level, one student really stood out in this class.

c. Faculty Course Assessment Report: CS3500, Fall 2014

Data Collected: Students performance on homework assignments, project, two tests, and a final exam.

Method of Collection: There were 5 homework (15%), 3 parts of the project plus presentation (20%), exam #1 (21%), exam #2 (21%), and 1 comprehensive final exam (23%).

Performance Levels	Frequency	Percentage
Some Ability (D)	3	15%
Adequate Ability (C)	7	35%
More than Adequate Ability (B)	7	35%
High Ability (A)	3	15%

Observations: The project and presentation scores were team-based but the homework and examinations were individual work. Overall, the performance of this class was very evenly distributed. This semester, I only gave 15% for the homework because student tended to copy each other's homework.

d. Faculty Course Assessment Report: CS3500, Spring 2015

Data Collected: Students performance on homework assignments, project, two tests, and a final exam.

Method of Collection: There were 5 homework (17%), 3 parts of the project plus presentation (20%), exam #1 (20%), exam #2 (20%), and 1 comprehensive final exam (23%).

Performance Levels	Frequency	Percentage
Some Ability (D)	1	8.3%
Adequate Ability (C)	6	50%
More than Adequate Ability (B)	4	33.3%
High Ability (A)	1	8.3%

Observations: The project and presentation scores were team-based but the homework and examinations were individual work. Overall, the performance of this class was very average. Only one student achieved high ability performance level.

The schedule for the projects was a little bit rushed in this semester due to the cancellation of two classes (snow storms).