

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

Fall 2015 – Spring 2017 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 2015 to Spring 2017, this student learning outcome was assessed in the software engineering course (CS 3500) from three semesters.

For this course, 14, 24, and 23 students respectively took CS 3500 and 16 of them (which represents 26%) have less than adequate ability (D performance level). Out of these 16 students, only two of them were from the earlier semester (Spring 2016). The latter two semesters, Fall 2016 and Spring 2017 have more inadequate students. Similar situation happened at the A level (high ability). More high ability students in Spring 2016 than in Fall 2016 and Spring 2017. Upon further investigation, more CIT students were in the latter semesters. Also compared with the previous assessment cycle (Fall 2013 – Spring 2015), there were less inadequate students. Perhaps CIT students were not as well prepared as the CS students.

B. Suggestions for Improvement

Since CIT students need CS 2550 (Foundations of Information Systems) as prerequisite and CS students need CS 3420 (Data Structures) as prerequisite, do not assume all the students have the same background in this course. Make sure all the students understand the relevant background information before proceeding to the topics. Give more examples and class exercises in UML.

C. Improvement Implemented

The improvement suggestions have been implemented in the Spring 2018 semester. More examples of Class Diagram and Communication Diagram in UML were demonstrated as class exercises.

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

- a. Faculty Course Assessment Report: CS3500, Spring 2016

Data Collected: Course grade for the entire course.

Method of Collection: There were 4 homework sets (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
No Ability (Level of performance of F)	0	0%
Some Ability (Level of performance of D)	2	14%
Adequate Ability (Level of performance of C)	1	7%
More than Adequate Ability (Level of performance of B)	7	50%
High Ability (Level of performance of A)	4	29%

Observations: The project and presentation scores were team-based (all the team members in a team got the same score if there was no dispute among team members) but the homework and examinations were individual work. Overall, the performance of this class was very good. Almost 80% of the students were at or above B level and almost one third of the class was in the A level.

- b. Faculty Course Assessment Report: CS3500, Fall 2016

Data Collected: Course grade for the entire course.

Method of Collection: There were 4 homework sets (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
No Ability (Level of performance of F)	1	4%
Some Ability (Level of performance of D)	7	29%
Adequate Ability (Level of performance of C)	6	25%
More than Adequate Ability (Level of performance of B)	8	33%
High Ability (Level of performance of A)	2	8%

Observations: The project and presentation scores were team-based (all the team members in a team got the same score if there was no dispute among team members) but the homework and examinations were individual work. Overall, the performance of this class was very good. Over 40% of the students were at or above B level.

The one student who got an F in this course only handed in one homework set out of four. Also, the exam scores for all the exams were extremely low.

c. Faculty Course Assessment Report: CS3500, Spring 2017

Data Collected: Course grade for the entire course.

Method of Collection: There were 4 homework sets (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
No Ability (Level of performance of F)	0	0%
Some Ability (Level of performance of D)	6	26%
Adequate Ability (Level of performance of C)	13	57%
More than Adequate Ability (Level of performance of B)	4	17%
High Ability (Level of performance of A)	0	0%

Observations: The project and presentation scores were team-based (all the team members in a team got the same score if there was no dispute among team members) but the homework and examinations were individual work. Overall, the performance of this class was relatively poor compared with the classes in the past several years. No one performed in the A level and the majority of the students were in the C range (57%). However, the level of difficulty of the exams for this class was pretty much the same as in previous years.
