

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

Fall 2018 – Spring 2019 Assessment Cycle  
Analysis of the Results of the Evaluations of the Assessment Data  
of  
the Program Student Outcome

**Program Student Outcome:**

S4: Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

**Assessment Committee Members:** Gilbert Ndjatou (Chair), Bogong Su, Erh-Wen Hu

**Date:** May 28, 2019

**Updated On:** \_\_\_\_\_

**A. Analysis of the Results of the Evaluations of the Assessment Data**

For the assessment period Fall 2018 to Spring 2019, this student outcome was assessed in the following four courses: CS3410, CS3500 (two sections in spring 2019), and CS4800.

In CS3410, 21 and 14 students respectively took the course and all of them have at least an adequate ability. However, it is observed that most teams' written reports are not good enough.

In CS3500, 25, 26, and 24 students respectively took the course and and 5 groups of 24 (which represents 20.8%) did have less than adequate ability. It is noticed that the teams that formed by themselves performed better than the team whom the instructor randomly assigned.

In CS4800, 15 and 15 students respectively took the course and 7 of them (which represents 23.3%) did have less than adequate ability.

**B. Suggestions for Improvement**

N/A

**C. Improvement Implemented**

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

a. Faculty Course Assessment Report : CS3410, Fall 2018

**Data Collected:** Each student’s level of performance on oral presentation and written report.

**Method of Collection:** Team work (two students) is required for a digital logic design project and to make an oral presentation and to produce a report on it. He/she then receives a numerical grade on the contents and knowledge of the project presented and a numerical grade on his/her report from the instructor of the course.

Performance Levels	Frequency	Percentage
No Ability	0	0 %
Some Ability	0	0 %
Adequate Ability	11	52 %
More than Adequate Ability	4	19%
High Ability	6	29 %

**Observations:**

- 1) Most teams’ written reports are poor.
  - 2) Plagiarism problem in project does not occur.
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b. Faculty Course Assessment Report : CS3410, Spring 2019

**Data Collected:** Each student’s level of performance on oral presentation and written report.

**Method of Collection:** Team work (two students) is required for a digital logic design project and to make an oral presentation and to produce a report on it. He/she then receives a numerical grade on the contents and knowledge of the project presented and a numerical grade on his/her report from the instructor of the course.

Performance Levels	Frequency	Percentage
No Ability	0	0 %
Some Ability	0	0 %
Adequate Ability	5	36 %
More than Adequate Ability	2	14 %
High Ability	7	50 %

**Observations:** Half teams’ written reports are still not good enough, some even miss the block diagram.

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c. Faculty Course Assessment Report : CS3500, Fall 2018

**Data Collected:** Each student’s level of performance on participating in the software team

project.

**Method of Collection:** There were 4 major activities for the team project: (1) requirements document – Use Case Models; (2) project presentation for a particular use case; (3) specifications and design document – Class Diagrams and Communication / Sequence Diagrams; and (4) implementation – C++ or Java codes for the classes and the final project report. The final report included the revised materials from the previously graded requirements, specifications and design documents. The frequency listed below is at the team level.

Performance Levels	Frequency	Percentage
No Ability (Level of performance of F)	0	0%
Some Ability (Level of performance of D)	2	25%
Adequate Ability (Level of performance of C)	3	37.5%
More than Adequate Ability (Level of performance of B)	2	25%
High Ability (Level of performance of A)	1	12.5%

**Observations:** The team project was called Used-Book Bookstore Administration System. Overall, one team did an exceptional job. Two teams did the minimum and they were at the D level of performance. I let them chose their team members in the beginning of the semester. The teams that formed by themselves performed better than the team whom I randomly assigned. The team that got an A did an outstanding job and produced an excellent final project report.

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d. Faculty Course Assessment Report : CS3500, Spring 2019

**Data Collected:** Each student's level of performance on participating in the software team project.

**Method of Collection:** There were 4 major activities for the team project: (1) requirements document – Use Case Models; (2) project presentation for a particular use case; (3) specifications and design document – Class Diagrams and Communication Diagrams; and (4) implementation – C++ or Java codes for the classes and the final project report. The final project report included the revised materials from the previously graded requirements, specifications and design documents. The frequency listed below is at the team level.

Performance Levels	Frequency	Percentage
No Ability (Level of performance of F)	0	0%
Some Ability (Level of performance of D)	1	12.5%
Adequate Ability (Level of performance of C)	4	50%
More than Adequate Ability (Level of performance of B)	2	25%
High Ability (Level of performance of A)	1	12.5%

**Observations:** The team project was called Student Information and Administration System. Overall, one team did an exceptional job. One team got 78.75 points out of 100 and with curve score, I put them in the B level of performance.

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e. Faculty Course Assessment Report : CS3500, Spring 2019

**Data Collected:** Each student's level of performance on participating in the software team project.

**Method of Collection:** There were 4 major activities for the team project: (1) requirements document – Use Case Models; (2) project presentation for a particular use case; (3) specifications and design document – Class Diagrams and Communication Diagrams; and (4) implementation – C++ or Java codes for the classes and the final project report. The final project report included the revised materials from the previously graded requirements, specifications and design documents. The frequency listed below is at the team level.

Performance Levels	Frequency	Percentage
No Ability (Level of performance of F)	0	0%
Some Ability (Level of performance of D)	2	25%
Adequate Ability (Level of performance of C)	2	25%
More than Adequate Ability (Level of performance of B)	3	37.5%
High Ability (Level of performance of A)	1	12.5%

**Observations:** The team project was called Library Information and Administration System. Overall, one team did an exceptional job. One team got 79.69 points out of 100, I put them in the B level of performance. One team performed poorly (did not follow standard UML) and got 50/100 on their project. Overall, the project really helped students understand the tasks of a software development process.

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f. Faculty Course Assessment Report : CS4800, Fall 2018

**Data Collected:** Each student's level of performance on participating in the software or performance analysis team project.

**Method of Collection:** The students were divided to groups. Each group consists of 3 -4 students. Each group will select one of 24 topics for their Project. The project consisted of three phases as follows:

- (1) In this phase, the students are asked to choose a topic from the list of provided topics with respect to the research area where they are interested in.
- (2) In this phase, the task is to create an analytical model for the research problem that the students have already specified in the first Phase.
- (3) In this final phase, the goal is to create a mathematical model for the analytical model that the students have already created in the second phase. The next step is to either perform a simulation for getting final results that can demonstrate the greatness/superiority of the proposed solution or just compute

numerical results that should be based on your mathematical formulas. In the final report, the simulation results should be demonstrated by means of graph whereas the numerical results should be described in a tabular form. For simulation, the students are free to use any software/language/tool/etc. such as MATLAB, OPNET, C/C++/Java.

The project grades represent 40 % of the course grade.

Performance Levels	Frequency	Percentage
No Ability (Level of performance of F)	0	0%
Some Ability (Level of performance of D)	4	27%
Adequate Ability (Level of performance of C)	4	27%
More than Adequate Ability (Level of performance of B)	3	20%
High Ability (Level of performance of A)	4	27%

**Observations:** Each team did a different project. The projects executed: Use of Artificial Neural Networks to Identify Fake Profiles, Security in Wireless Sensors, Context-Oriented Privacy Protection in WSNs, and Group Based Car Verification Protocol. Three of the projects were presented in the American Society of Engineering Education Conference in April 2019 as posters and presented as papers in the IEEE LISAT conference in May 2019.

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g. Faculty Course Assessment Report : CS4800, Spring 2019

**Data Collected:** Each student's level of performance on participating in the software or performance analysis team project.

**Method of Collection:** The students were divided to groups. Each group consists of 3 students. Each group will select one of 24 topics for their Project. The project consisted of three phases as follows:

- (1) In this phase, the students are asked to choose a topic from the list of provided topics with respect to the research area where they are interested in.
- (2) In this phase, the task is to create an analytical model for the research problem that the students have already specified in the first Phase.
- (3) In this final phase, the goal is to create a mathematical model for the analytical model that the students have already created in the second phase. The next step is to either perform a simulation for getting final results that can demonstrate the greatness/superiority of the proposed solution or just compute numerical results that should be based on your mathematical formulas. In the final report, the simulation results should be demonstrated by means of graph whereas the numerical results should be described in a tabular form. For simulation, the students are free to use any software/language/tool/etc. such as MATLAB, OPNET, C/C++/Java.

The project grades represent 40 % of the course grade.

<b>Performance Levels</b>	<b>Frequency</b>	<b>Percentage</b>
No Ability (Level of performance of F)	0	0%
Some Ability (Level of performance of D)	3	20%
Adequate Ability (Level of performance of C)	6	40%
More than Adequate Ability (Level of performance of B)	3	20%
High Ability (Level of performance of A)	3	20%

**Observations:**

Each team did a different project. The projects executed: Encryption and Cryptography in Wireless and Mobile Environment, Location Tracking of Mobile Objects and the Privacy Tradeoff, Energy Efficiency Techniques: Mobile Device Solutions, Mobile Ad Hoc (Security), and Artificial Neural Networks: Building More Accurate Models of The Biological Neural System.

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