

Course Assessment Report  
Washtenaw Community College

Discipline	Course Number	Title
Computer Science	276	CPS 276 03/13/2023-Web Programming Using PHP and MySQL
College	Division	Department
Business and Computer Technologies	Business and Computer Technologies	Computer Science & Information Technology
Faculty Preparer		Scott Shaper
Date of Last Filed Assessment Report		06/22/2020

**I. Review previous assessment reports submitted for this course and provide the following information.**

1. Was this course previously assessed and if so, when?

Yes

It was last assessed in Winter 2019.

2. Briefly describe the results of previous assessment report(s).

The problem with the analysis of the data in the last report is that it does not accurately reflect how well the students achieved the outcomes. This is evident with a lower test score but a higher practical evaluation score. One way to improve this is to have better rubrics used to accurately assess the individual outcomes when it comes to the projects.

3. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

Better rubrics were designed for all assignments, so the evaluation data was more accurate. Also, specific projects were matched to specific outcomes to make the evaluation better.

**II. Assessment Results per Student Learning Outcome**

Outcome 1: Recognize appropriate use of PHP programming basics.

- Assessment Plan

- Assessment Tool: Outcome-related multiple-choice and short answer questions on a departmental exam
- Assessment Date: Fall 2023
- Course section(s)/other population: All
- Number students to be assessed: All
- How the assessment will be scored: The multiple choice and short answer questions have well-defined answers that can be objectively scored as correct or incorrect.
- Standard of success to be used for this assessment: The standard for success will be that 70% of the students will score better than 70% or higher on the outcome-related questions.
- Who will score and analyze the data: Instructors teaching CPS 276 will analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2022, 2021	2022, 2021	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
162	109

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

We used the data of the students that completed the assignment for the outcome. Some students withdrew from the course and students that did not fully complete and submit the assignment were not included. The classes used to assess the outcomes were from Fall (F) 2021 M01, F 2021 01, Winter (W) 2021 01, F 2022 M02, F 2022 M01, W 2022 M01, W 2022 M02.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

The sample size used to assess comprised of mixed mode (MM) sections taught morning and night.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

We altered the assessment tool used to assess this outcome from the master syllabus to use a basic PHP assignment that captured more meaningful data instead of the outcome-related test. We determined this was a better way to assess what the student can demonstrate practically.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

The master syllabus stated a standard of success where 70% of the students would score 70% or better. We found that 97% of the students (106/109) exceeded the 70% threshold. Students clearly met and exceeded the standard for success.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

This outcome challenges students to write basic PHP code correctly. Students showed strength in understanding PHP basics.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Most students scored well on the assignment but we noticed that there were a few students that barely made the 70-percentile range. Moving forward we will review the assignment to see if we can find areas to help students improve their success.

Outcome 2: Identify relational database design and MySQL database server fundamentals.

- Assessment Plan
  - Assessment Tool: Outcome-related multiple-choice and short answer questions on a departmental exam
  - Assessment Date: Fall 2023
  - Course section(s)/other population: All
  - Number students to be assessed: All

- How the assessment will be scored: The multiple-choice and short answer questions have well-defined answers that can be objectively scored as correct or incorrect.
- Standard of success to be used for this assessment: The standard for success will be that 70% of the students will score better than 70% or higher on the outcome-related questions.
- Who will score and analyze the data: Instructors teaching CPS 276 will analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2022, 2021	2022, 2021	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
162	100

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

We used the data of the students that completed the assignment for the outcome. Some students withdrew from the course and students that did not fully complete and submit the assignment were not included. The classes used to assess the outcomes were from F 2021 M01, F 2021 01, W 2021 01, F 2022 M02, F 2022 M01, W 2022 M01, W 2022 M02.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

The sample size used to assess comprised of MM sections taught morning and night.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

We altered the assessment tool used to assess this outcome from the master syllabus to use a basic PHP assignment that captured more meaningful data instead of the outcome-related test. We determined this was a better way to assess what the student can demonstrate practically.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

The master syllabus stated a standard of success where 70% of the students would score 70% or better. We found that 96% of the students (96/100) exceeded the 70% threshold. Students clearly met and exceeded the standard for success.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

This outcome challenges students to understand and write MySQL code. Students who completed this showed strength in understanding MySQL basics.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Most students scored well on the assignment but we noticed that there were a few students that barely made the 70-percentile range. Moving forward we will review the assignment to see if we can find areas to help students improve their success.

Outcome 3: Identify appropriate techniques for accessing MySQL from the PHP programming language.

- Assessment Plan
  - Assessment Tool: Outcome-related multiple-choice and short answer questions on a departmental exam
  - Assessment Date: Fall 2023
  - Course section(s)/other population: All
  - Number students to be assessed: All
  - How the assessment will be scored: The multiple-choice and short answer questions have well-defined answers that can be objectively scored as correct or incorrect.
  - Standard of success to be used for this assessment: The standard for success will be that 70% of the students will score better than 70% or higher on the outcome-related questions.

- Who will score and analyze the data: Instructors teaching CPS 276 will analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2022, 2021	2022, 2021	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
162	86

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

We used the data of the students that completed the assignment for the outcome. Some students withdrew from the course and students that did not fully complete and submit the assignment were not included. The classes used to assess the outcomes were from F 2021 M01, F 2021 01, W 2021 01, F 2022 M02, F 2022 M01, W 2022 M01, W 2022 M02.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

The sample size used to assess comprised of MM sections taught morning and night.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

We altered the assessment tool used to assess this outcome from the master syllabus to use a basic PHP assignment that captured more meaningful data instead of the outcome-related test. We determined this was a better way to assess what the student can demonstrate practically.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

The master syllabus stated a standard of success where 70% of the students would score 70% or better. We found that 80% of the students (69/86) exceeded the 70% threshold. Students clearly met and exceeded the standard for success.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

This outcome challenges students to understand and write PDO code, which ties PHP and MySQL together. Students who completed this showed strength in understanding how to do this.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Most students scored well on the assignment but we noticed that there were a few students that barely made the 70-percentile range. Moving forward we will review the assignment to see if we can find areas to help students improve their success.

Outcome 4: Apply sound software engineering techniques in developing a working software project.

- Assessment Plan
  - Assessment Tool: A portfolio of software programs submitted by the students
  - Assessment Date: Fall 2023
  - Course section(s)/other population: All
  - Number students to be assessed: All
  - How the assessment will be scored: Departmentally-developed rubric
  - Standard of success to be used for this assessment: The standard for success will be that 70% of students will score 70% or higher on the rubric.
  - Who will score and analyze the data: Instructors teaching CPS 276 will analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2022, 2021	2022, 2021	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
162	88

- If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

We used the data of the students that completed the assignment for the outcome. Some students withdrew from the course and students that did not fully complete and submit the assignment were not included. The classes used to assess the outcomes were from F 2021 M01, F 2021 01, W 2021 01, F 2022 M02, F 2022 M01, W 2022 M01, W 2022 M02.

- Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

The sample size used to assess comprised of MM sections taught morning and night.

- Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

We altered the assessment tool used to assess this outcome from the master syllabus to use a basic PHP assignment that captured more meaningful data instead of the outcome-related test. We determined this was a better way to assess what the student can demonstrate practically. This assignment was worth 200 points.

- Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes  
 The master syllabus stated a standard of success where 70% of the students would score 70% or better. We found that 84% of the students (74/88) exceeded the 70% threshold. Students clearly met and exceeded the standard for success.

- Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

This outcome challenges students to put all they learned into one assignment. Students who completed this showed strength in understanding how to do this.

- Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Most students scored well on the assignment but we noticed that there were a few students that barely made the 70-percentile range. Moving forward we will review the assignment to see if we can find areas to help students improve their success.

### III. Course Summary and Intended Changes Based on Assessment Results

- Based on the previous report's Intended Change(s) identified in Section I above, please discuss how effective the changes were in improving student learning.

The changes from the last report were implemented and improved upon during the time period between reports. However, one disappointing thing is that it was our understanding that Blackboard could tie outcomes to specific rubrics for a more detailed report. This seems to not be the case. Rubrics will still be used but we will look at better ways to get more accurate data.

- Describe your overall impression of how this course is meeting the needs of students. Did the assessment process bring to light anything about student achievement of learning outcomes that surprised you?

The data shows students are being successful in this course. Changing it to a project-based course instead of test based was the right thing to do. Students have to demonstrate what they know instead of memorize answers on a test, which is much better for a programming class.

- Describe when and how this information, including the action plan, was or will be shared with Departmental Faculty.

The information will be shared with faculty during the department meetings.

- Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Assessment Tool	We will be using projects as our assessment going forward.	For a programming class it is better to have students demonstrate their skill set instead of answering questions on a test.	2023

Other: rubrics	Explore ways to get more granular assessment data for each outcome.	More detailed data would allow more accurate identification of strengths and weaknesses in student learning.	2023
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5. Is there anything that you would like to mention that was not already captured?

6.
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### III. Attached Files

[assessment data](#)

**Faculty/Preparer:** Scott Shaper **Date:** 03/30/2023  
**Department Chair:** Scott Shaper **Date:** 03/30/2023  
**Dean:** Eva Samulski **Date:** 03/31/2023  
**Assessment Committee Chair:** Shawn Deron **Date:** 06/19/2023

**Course Assessment Report  
Washtenaw Community College**

Discipline	Course Number	Title
Computer Science	276	CPS 276 09/20/2019-Web Programming Using Apache, MySQL, and PHP
Division	Department	Faculty Preparer
Business and Computer Technologies	Computer Science & Information Technology	Scott Shaper
Date of Last Filed Assessment Report		

**I. Review previous assessment reports submitted for this course and provide the following information.**

1. Was this course previously assessed and if so, when?

No

2. Briefly describe the results of previous assessment report(s).

3.

4. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

5.

**II. Assessment Results per Student Learning Outcome**

Outcome 1: Identify appropriate use of PHP programming basics.

- Assessment Plan
  - Assessment Tool: Multiple choice and short answer questions on a departmental exam.
  - Assessment Date: Fall 2011
  - Course section(s)/other population: All
  - Number students to be assessed: 100%

- How the assessment will be scored: The multiple choice and short answer questions have well-defined answers that can be objectively scored as correct or incorrect. The results of all sections will be tabulated and analyzed.
- Standard of success to be used for this assessment: The standard for success will be that 70% of the students who take the exam will score better than 70%.
- Who will score and analyze the data: Instructors teaching CPS 276 will analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2019	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
32	16

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

There were multiple sections of this course taught by different instructors. As a result, the methods used to evaluate the outcomes were not consistent, so the data is not accurate. This problem will be fixed by ensuring all the assessment data is consistent among all the instructors.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

As stated above, due to the inconsistency of the evaluation tool used across different instructors, this assessment only includes one-night class that is a four-hour block.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

The tool used to evaluate this outcome was a selection of test questions. The test questions were in three groups of about five questions (the fourth outcome was answered with a practical project). The data from this assessment came from group one.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

The data indicates that 75% (12 out of 16) students got a 70 percent or better on the test questions used for this outcome. This is above the 70% success rate indicated in the master syllabus.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

This outcome shows that the students understood the concepts from a test-taking perspective.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Although this outcome was a success, overall, the problem with the analysis of the data is that it does not reflect a bigger batch of students, and it does not accurately reflect how well the students achieved the outcomes. This is evident with a lower test score but a higher practical evaluation score. One way to improve this is to have more accurate data and a better group of students being assessed. This will be accomplished by having rubrics used to accurately assess the individual outcomes when it comes to the final project. Though the test questions are helpful in evaluation, I am not sure they accurately reflect the students' achievements in the outcomes. Through most of the course, students are doing practical assignments and not taking tests or quizzes. I feel the evaluation would be better on some specific projects that will more accurately measure success for this outcome and not test questions. This course is currently being transferred into a blended course, and the problems addressed in this evaluation will be resolved. All instructors will be required to use the same projects that will more accurately measure student success for all outcomes. The project rubrics will be set up to accurately measure data for the outcomes.

Outcome 2: Identify relational database design and MySQL database server fundamentals.

- Assessment Plan
  - Assessment Tool: Multiple choice and short answer questions on a departmental exam.
  - Assessment Date: Fall 2011

- Course section(s)/other population: All
- Number students to be assessed: 100%
- How the assessment will be scored: The multiple choice and short answer questions have well-defined answers that can be objectively scored as correct or incorrect. The results of all sections will be tabulated and analyzed.
- Standard of success to be used for this assessment: The standard for success will be that 70% of the students who take the exam will score better than 70%.
- Who will score and analyze the data: Instructors teaching CPS 276 will analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2019	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
32	16

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

There were multiple sections of this course taught by different instructors. As a result, the methods used to evaluate the outcomes were not consistent, so the data is not accurate. This problem will be fixed by ensuring all the assessment data is consistent among all the instructors.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

As stated above, due to the inconsistency of the evaluation tool used across different instructors, this assessment only includes one-night class that is a four-hour block.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

The tool used to evaluate this outcome was a selection of test questions. The test questions were in three groups of about five questions (the fourth outcome was

answered with a practical project). The data from this assessment came from group two.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: No

The data indicates that 25% (4 out of 16) students got a 70 percent or better on the test questions used for this outcome. This is well below the 70% success rate indicated in the master syllabus.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

This outcome shows that the students did not understand the concepts from a test-taking perspective. However, the practical score showed that they understood how to apply this objective.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

The problem with the analysis of the data is that it does not reflect a bigger batch of students, and it does not accurately reflect how well the students achieved the outcomes. This is evident with a lower test score but a higher practical evaluation score. One way to improve this is to have more accurate data and a better group of students being assessed. This will be accomplished by having rubrics used to accurately assess the individual outcomes when it comes to the final project. Though the test questions are helpful in evaluation, I am not sure they accurately reflect the students' achievements in the outcomes. Through most of the course, students are doing practical assignments and not taking tests or quizzes. I feel the evaluation would be better on some specific projects that will more accurately measure success for this outcome and not test questions. This course is currently being transferred into a blended course, and the problems addressed in this evaluation will be resolved. All instructors will be required to use the same projects that will more accurately measure student success for all outcomes. The project rubrics will be set up to accurately measure data for the outcomes.

Outcome 3: Identify appropriate techniques for accessing MySQL from the PHP programming language.

- Assessment Plan

- Assessment Tool: Multiple choice and short answer questions on a departmental exam.
- Assessment Date: Fall 2011
- Course section(s)/other population: All
- Number students to be assessed: 100%
- How the assessment will be scored: The multiple choice and short answer questions have well-defined answers that can be objectively scored as correct or incorrect. The results of all sections will be tabulated and analyzed.
- Standard of success to be used for this assessment: The standard for success will be that 70% of the students who take the exam will score better than 70%.
- Who will score and analyze the data: Instructors teaching CPS 276 will analyze the data.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2019	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
32	16

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

There were multiple sections of this course taught by different instructors. As a result, the methods used to evaluate the outcomes were not consistent, so the data is not accurate. This problem will be fixed by ensuring all the assessment data is consistent among all the instructors.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

As stated above, due to the inconsistency of the evaluation tool used across different instructors, this assessment only includes one-night class that is a four-hour block.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

The tool used to evaluate this outcome was a selection of test questions. The test questions were in three groups of about five questions (the fourth outcome was answered with a practical project). The data from this assessment came from group three.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: No

The data indicates that 37.5% (6 out of 16) students got a 70 percent or better on the test questions used for this outcome. This is well below the 70% success rate indicated in the master syllabus.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

This outcome shows that the students did not understand the concepts from a test-taking perspective. However, the practical score showed that they understood how to apply this objective.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

The problem with the analysis of the data is it does not reflect a bigger batch of students, and it does not accurately reflect how well the students achieved the outcomes. This is evident with a lower test score but a higher practical evaluation score. One way to improve this is to have more accurate data and a better group of students being assessed. This will be accomplished by having rubrics used to accurately assess the individual outcomes when it comes to the final project. Though the test questions are helpful in evaluation, I am not sure they accurately reflect the students' achievements in the outcomes. Through most of the course, students are doing practical assignments and not taking tests or quizzes. I feel the evaluation would be better on some specific projects that will more accurately measure success for this outcome and not test questions. This course is currently being transferred into a blended course, and the problems addressed in this evaluation will be resolved. All instructors will be required to use the same projects that will more accurately measure student success of all outcomes. The project rubrics will be set up to accurately measure data for the outcomes.

Outcome 4: Demonstrate sound software engineering techniques in developing a working software project.

- Assessment Plan
  - Assessment Tool: A Portfolio of software programs submitted by the students.
  - Assessment Date: Fall 2011
  - Course section(s)/other population: All
  - Number students to be assessed: 100%
  - How the assessment will be scored: The portfolio of software programs will be blind-scored by a subset of the department using a scoring rubric made up of two components which will be added together to produce a single scored result.
  - Standard of success to be used for this assessment: The standard for success will be that 70% of students will score 70% or higher on the rubric.
  - Who will score and analyze the data: Instructors teaching CPS 276 will analyze the data. For the blind-scored documents, the instructors will not be allowed to know the student who submitted the program.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2019	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
32	16

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

There were multiple sections of this course taught by different instructors. As a result, the methods used to evaluate the outcomes were not consistent, so the data is not accurate. This problem will be fixed by ensuring all the assessment data is consistent among all the instructors.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

As stated above, due to the inconsistency of the evaluation tool used across different instructors, this assessment only includes one-night class that is a four-hour block.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

The tool used to evaluate this outcome was a final project. The problem was there was no rubric used. As a result, there was no accurate way to measure “sound engineering techniques” as listed in the outcome. It can be assumed that students who scored well on this final project demonstrated the outcome, but an accurate measurement does not exist.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

The data indicates that 87.5% (14 out of 16) students got a 70 percent or better on this final project. This is above the 70% success rate indicated in the master syllabus. This is not surprising; most of the semester, students are doing projects and not taking tests or quizzes. The process by which they are learning is by doing, not test-taking. The data indicated that students are learning to create PHP applications by building the application.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Because a rubric was not used in the evaluation of the final project, the data is not as accurate as it could be. However, overall, it appears as if the students are demonstrating that they learned the practical skills needed to achieve the outcome.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Although this outcome was a success, overall, the problem with the analysis of the data is that it does not reflect a bigger batch of students, and it does not accurately reflect how well the students achieved the outcomes. This is evident with a lower test score but a higher practical evaluation score. One way to improve this is to have more accurate data and a better group of students being assessed. This will be accomplished by having rubrics used to accurately assess the individual outcomes when it comes to the final project. Though the test questions are helpful in evaluation, I am not sure they accurately reflect the students' achievements in the

outcomes. Through most of the course, students are doing practical assignments and not taking tests or quizzes. I feel the evaluation would be better on some specific projects that will more accurately measure success for this outcome and not test questions. This course is currently being transferred into a blended course, and the problems addressed in this evaluation will be resolved. All instructors will be required to use the same projects that will more accurately measure student success of all outcomes. The project rubrics will be set up to accurately measure data for the outcomes.

### III. Course Summary and Intended Changes Based on Assessment Results

1. Based on the previous report's Intended Change(s) identified in Section I above, please discuss how effective the changes were in improving student learning.

I did not see any previous reports.

2. Describe your overall impression of how this course is meeting the needs of students. Did the assessment process bring to light anything about student achievement of learning outcomes that surprised you?

I believe the course is meeting the needs of the students and that the students are learning. I believe this because I teach the course and I can see it. However, the assessment process brought to light the fact that the data is not accurate and does not create an accurate picture of outcome success.

3. Describe when and how this information, including the action plan, was or will be shared with Departmental Faculty.

This information will be shared with faculty that is affected by it immediately. It will be shared by talking to faculty.

4. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Assessment Tool	The course will be changed so that all instructors will be giving the same projects that will be used for evaluation. In addition the projects will be set up to use	The data being used for the evaluation is inaccurate and changes need to be made to address that problem.	2020

	rubrics (via Blackboard) that will more accurately reflect student success based upon the outcomes.		
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5. Is there anything that you would like to mention that was not already captured?

6.
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### III. Attached Files

[Data Showing class](#)

**Faculty/Preparer:** Scott Shaper **Date:** 10/04/2019  
**Department Chair:** Khaled Mansour **Date:** 10/10/2019  
**Dean:** Eva Samulski **Date:** 10/10/2019  
**Assessment Committee Chair:** Shawn Deron **Date:** 06/16/2020