Course Assessment Report
Washtenaw Community College

Discipline	Course Number	Title
Web Design and Development	230	WEB 230 01/16/2018-Advanced JavaScript
Division	Department	Faculty Preparer
Business and Computer Technologies	Digital Media Arts	Scott Shaper
Date of Last Filed Assessment Report		

I. Assessment Results per Student Learning Outcome

Outcome 1: Implement event listening and event delegation techniques in Web applications.

- Assessment Plan
    - Assessment Tool: Homework assignments
    - Assessment Date: Fall 2017
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored: Departmentally-developed rubric
    - Standard of success to be used for this assessment: 80% of students will score 70% or higher
    - Who will score and analyze the data: WEB full-time faculty will score and 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)
2016	2017, 2016	

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

# of students enrolled	# of students assessed
35	12

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.

12 of 35 students were assessed for this outcome. The other students either had not completed the final project, or had withdrawn from the course. Students who did not complete the final project could not be assessed. This will be corrected for future assessments.

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.

All students from all sections held in Fall 2016, Winter 2016 and Fall 2017 were included in this assessment. All sections were face-to-face.

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

An event is when a user performs some action on a webpage (like clicking a button). Listening for an event means the computer is waiting for the user to perform an action. When the user does perform that action, the computer responds with whatever action it has been instructed to do. Event delegation is a technique that allows a programmer to assign an event to an area instead of a particular element. For example, let's pretend I have 12 buttons on a web page that do a similar task. Instead of assigning an event to each button, I could assign an event to an area that contains the button. Thus, when a button is clicked, that area is also clicked and the event will fire. This technique is important because it saves memory resources. For this outcome, the final project was used as the assessment tool instead of the homework assignment(s). The final project for this course is a pass/fail project for the students. It is opened up on the first day of class and is due on the last day of class. As the students go through the course, they learn what is needed to complete the final project and have to complete checkpoints along the way. It is stressed to the students on the first day that the final project must work 100%. The evaluation consisted of students demonstrating that their final project worked as expected and review of their code from the instructor. The code was reviewed for proper commenting, neatness, conciseness and organization.

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
12 of 12 students scored 100%,

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

Based upon the students evaluated, 100% showed strong skills in this outcome. Mastering this skill allows students to better manage event resources, which is viewed favorably in the industry.

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.

Throughout the semester, students had to accomplish various checkpoints. The checkpoints consisted of completing certain tasks or parts necessary for the completion of their final project. When looking at the data, it appeared that many of the students did complete all or most of their checkpoints but did not complete the final project. Based upon this, it appears that the checkpoints did not prepare the students for success in the final project. This has already been changed and we expect to see an improvement this current semester as a result.

Outcome 2: Use the Document Object Model and Browser Object Model to interact with documents and browsers, respectively.

- Assessment Plan
    - Assessment Tool: Homework assignments
    - Assessment Date: Fall 2017
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored: Departmentally-developed rubric
    - Standard of success to be used for this assessment: 80% of students will score 70% or higher
    - Who will score and analyze the data: WEB full-time faculty will score and 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)
2016	2017, 2016	

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

# of students enrolled	# of students assessed
35	25

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.

25 of 35 students were assessed for this outcome. The other 10 either had not completed the final project, or had withdrawn from the course. Students who did not complete the final project could not be assessed. This will be corrected for future assessments.

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.

All students from all sections held in Fall 2016, Winter 2016 and Fall 2017 were included in this assessment. All sections were face-to-face.

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

The document object model (DOM) allows users to interact with a webpage (find a heading, change the color of text, add some text dynamically, etc.). The browser object model (BOM) allows us to interact with the browser (change the screen size, retrieve a history of past visited pages, open new browser windows or tabs, etc.). This outcome measured the students' ability to interact with the DOM (mostly) and the BOM (a little).

For this outcome, the final project was used as the assessment tool instead of the homework assignment(s). The final project for this course is a pass/fail project for the students. It is opened up on the first day of class and is due on the last day of class. As the students go through the course, they learn what is needed to complete the final project and have to complete checkpoints along the way. It is stressed to the students on the first day that the final project must work 100%.

The evaluation consisted of students demonstrating that their final project worked as expected and review of their code from the instructor. The code was reviewed for proper commenting, neatness, conciseness and organization.

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
25 of 25 students scored 100%.

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

Students who have mastered this skill have the ability to alter a webpage dynamically using JavaScript.

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.

Throughout the semester, students had to accomplish various checkpoints. The checkpoints consisted of completing certain tasks or parts necessary for the completion of their final project. When looking at the data, it appeared that many of the students did complete all or most of their checkpoints but did not complete the final project. Based upon this, it appears that the checkpoints did not prepare the students for success in the final project. This has already been changed and we expect to see an improvement this current semester as a result.

Outcome 3: Store and modify data on the server using a database.

- Assessment Plan
    - Assessment Tool: Homework assignments
    - Assessment Date: Fall 2017
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored: Departmentally-developed rubric
    - Standard of success to be used for this assessment: 80% of students will score 70% or higher
    - Who will score and analyze the data: WEB full-time faculty will score and 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)
2016	2016, 2017	

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

# of students enrolled	# of students assessed
35	12

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.

12 of 35 students were assessed for this outcome. The other 23 either had not completed the final project, or had withdrawn from the course. Students who did not complete the final project could not be assessed. This will be corrected for future assessments.

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.

All students from all sections held in Fall 2016, Winter 2016 and Fall 2017 have been included in this assessment. All sections were face-to-face.

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

A database is an electronic storage area for data (names, addresses, emails, etc.).

For this outcome, the final project was used as the assessment tool instead of the homework assignment(s). The final project for this course is a pass/fail project for the students. It is opened up on the first day of class and is due on the last day of class. As the students go through the course, they learn what is needed to complete the final project and have to complete checkpoints along the way. It is stressed to the students on the first day that the final project must work 100%.

This outcome evaluated students' ability to add, delete, and modify database data. In the final project, students had to write scripts that add, delete and modify data based upon user input or interaction (clicking a button, etc.).

The evaluation consisted of students demonstrating that their final project worked as expected and review of their code from the instructor. The code was reviewed for proper commenting, neatness, conciseness and organization.

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
12 of 12 students scored 100%.

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

Students who have mastered this skill have the ability to add, delete and modify data on a database.

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.

Throughout the semester students had to accomplish various checkpoints. The checkpoints consisted of completing certain tasks or parts necessary for the completion of their final project. When looking at the data, it appeared that many of the students did complete all or most of their checkpoints but did not complete the final project. Based upon this, it appears that the checkpoints did not prepare the students for success in the final project. This has already been changed and we expect to see an improvement this semester as a result.

Outcome 4: Retrieve and send data asynchronously via AJAX.

- Assessment Plan
    - Assessment Tool: Homework assignments
    - Assessment Date: Fall 2017
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored: Departmentally-developed rubric
    - Standard of success to be used for this assessment: 80% of students will score 70% or higher
    - Who will score and analyze the data: WEB full-time faculty will score and 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)
2016	2017, 2016	

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

# of students enrolled	# of students assessed
35	12

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.

12 of 35 students were assessed for this outcome. The other 23 either had not completed the final project or had withdrawn from the course. Students who did not complete the final project could not be assessed. This will be corrected for future assessments.

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.

All students from all sections held in Fall 2016, Winter 2016 and Fall 2017 were included in this assessment. All sections were face-to-face.

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

AJAX is a process of sending information from the user's computer to the server and back. This is an asynchronous process in which the transaction is done more behind the scenes. The benefit is faster retrieval and transmission of information. Also, due to the nature of it, the user has a desktop application type of experience instead of a typical web experience where they have to go to a new page or have their current page reloaded.

For this outcome, the final project was used as the assessment tool instead of the homework assignment(s). The final project for this course is a pass/fail project for the students. It is opened up on the first day of class and is due on the last day of class. As the students go through the course, they learn what is needed to complete the final project and have to complete checkpoints along the way. It is stressed to the students on the first day that the final project must work 100%.

This outcome evaluated students' ability to send, receive and display information in an asynchronous way using AJAX technology.

The evaluation consisted of students demonstrating that their final project worked as expected and review of their code from the instructor. The code was reviewed for proper commenting, neatness, conciseness and organization.

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
12 of 12 students scored 100%.

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

Students who have mastered this skill have demonstrated they can asynchronously send and receive data to and from the server.

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.

Throughout the semester, students had to accomplish various checkpoints. The checkpoints consisted of completing certain tasks or parts necessary for the completion of their final project. When looking at the data, it appeared that many of the students did complete all or most of their checkpoints but did not complete the final project. Based upon this, it appears that the checkpoints did not prepare the students for success in the final project. This has already been changed and we expect to see an improvement this semester as a result.

Outcome 5: Implement web templates for generating web pages.

- Assessment Plan
    - Assessment Tool: Homework assignments
    - Assessment Date: Fall 2017
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored: Departmentally-developed rubric
    - Standard of success to be used for this assessment: 80% of students will score 70% or higher
    - Who will score and analyze the data: WEB full-time faculty will score and 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)
2016	2017, 2016	

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

# of students enrolled	# of students assessed
35	27

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.

27 of 35 students were assessed for this outcome. The other 12 either had not completed the assignment, or had withdrawn from the course. Students who did not complete the final project could not be assessed. This will be corrected for future assessments.

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.

All students from all sections held in Fall 2016, Winter 2016 and Fall 2017 have been included in this assessment. All sections were face-to-face.

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

Web templates are a process where web pages or parts of web pages are reused instead of recreated.

For this outcome, a checkpoint was used for evaluation. Checkpoints were due dates set between the start and finish of the project where students had to complete a part of the project, or a part that would be related to the project with some modification.

In this checkpoint, students demonstrated that they could create templates for their final project website. They were scored on a scale of 0-10 or 0–15, based upon which semester it was. The evaluation consisted of students demonstrating that part of the project and code review from the instructor.

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
26 of the 27 scored 100%, and one scored 80%.

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

Students who have mastered this skill have demonstrated they can build the templates needed for a website.

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.

Throughout the semester, students had to accomplish various checkpoints. The checkpoints consisted of completing certain tasks or parts necessary for the completion of their final project. When looking at the data, it appeared that many of the students did complete all or most of their checkpoints but did not complete the final project. Based upon this, it appears that the checkpoints did not prepare the students for success in the final project. This has already been changed and we expect to see an improvement this semester as a result.

Outcome 6: Implement web servers to push web pages that are requested from the browser.

- Assessment Plan
    - Assessment Tool: Homework assignments
    - Assessment Date: Fall 2017
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored: Departmentally-developed rubric
    - Standard of success to be used for this assessment: 80% of students will score 70% or higher
    - Who will score and analyze the data: WEB full-time faculty will score and 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)
2016	2017, 2016	

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

# of students enrolled	# of students assessed
35	12

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.

12 of 35 students were assessed for this outcome. The other 23 either had not completed the activity, or had withdrawn from the course. Students who did not complete the final project could not be assessed. This will be corrected for future assessments.

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.

All students from all sections held in Fall 2016, Winter 2016 and Fall 2017 were included in this assessment. All sections were face-to-face.

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

Web servers are computers that are set up (via software) to house and serve webpages via the Internet. To implement a server (in the context of this course) is to write a script that will set up a computer to be able to serve webpages when requested from the browser. A virtual machine (referenced below) is an instance of an operating system that is hosted on a hosting company's server. The virtual machine is named as such because it is not a physical machine but is created to be represented as one. For this outcome, the final project was used as an assessment tool instead of the homework assignment(s). The final project for this course is a pass/fail project for the students. It is opened up on the first day of class and is due on the last day of class. As the students go through the course they learn what is needed to complete the final project and have to complete checkpoints along the way. It is stressed to the students on the first day that the final project must work 100%. This outcome evaluated students' ability to set up their virtual machine so it can act as a server. The evaluation consisted of students demonstrating that their final project worked as expected and review of their code from the instructor. The code was reviewed for proper commenting, neatness, conciseness and organization.

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
12 of 12 students scored 100%.

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

Students who have mastered this skill have demonstrated they can write the code to create a webserver for hosting web pages.

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.

Throughout the semester, students had to accomplish various checkpoints. The checkpoints consisted of completing certain tasks or parts necessary for the completion of their final project. When looking at the data, it appeared that many of the students did complete all or most of their checkpoints but did not complete the final project. Based upon this, it appears that the checkpoints did not prepare the students for success in the final project. This has already been changed and we expect to see an improvement this semester as a result.

II. Course Summary and Action Plans Based on Assessment Results

1. 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 course does offer students a successful skillset that can be directly transferred to the workplace. However, this assessment showed that the course checkpoints did not prepare the students to be successful with the final project. That was a surprise as I thought it would be better. Changes will be made to the course to better prepare students for success in the course by developing mini-projects that will be evaluated and assessed during the course. The final project will not be the only assessment point for the course.

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

I will talk with Jason and Kelley about this outcome.

3. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Outcome Language	Consider reducing the number of outcomes from 6 to a more manageable number.	Outcomes will reflect the most important learning and the less important will be moved to course objectives.	2018
Assessment Tool	Tools will be changed to the mini-projects that reflect the outcome learning.	By using mini-projects, instructors will be able to provide more immediate feedback on student learning and guide students to successful completion of the course.	2018
Course Assignments	Course checkpoints will be changed to be mini-projects.	The data showed that the checkpoints did not prepare students for the final project. Thus, changes have already been made to the course.	2018

4. Is there anything that you would like to mention that was not already captured?

5.

III. Attached Files

Summary of data

Faculty/Preparer:	Scott Shaper	**Date:** 02/07/2018
Department Chair:	Ingrid Ankerson	**Date:** 03/27/2018
Dean:	Eva Samulski	**Date:** 03/27/2018
Assessment Committee Chair:	Shawn Deron	**Date:** 07/16/2018