

**Course Assessment Report  
Washtenaw Community College**

| Discipline  | Course Number                                       | Title   |
|---|---|---|
| Auto Body Repair (new)                              | 201   | ABR 201 07/20/2023-<br>Lightweighting Composite<br>Repair |
| College   | Division  | Department  |
| Advanced Technologies<br>and Public Service Careers | Advanced Technologies<br>and Public Service Careers | Transportation<br>Technologies                            |
| Faculty Preparer                                    |   | Robert Lowing   |
| 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?

Yes

This course was last assessed in Fall 2018.

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

On the previous assessment report, students met the standard of success on all three student learning outcomes. Through the process of assessment, minor items on all three student learning outcomes were identified and changed for student success and to better align with the class.

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

The assessment tool on all three outcomes were changed to better suit the students and the class. Outcome 1 was changed from a departmentally developed test to a safety test to make sure the students can proceed in the lab with all the necessary safety training and gear. Outcome 2 was changed from a repair checklist to a student project to reflect a larger scope and a better laid out process. Outcome 3 had a student achievement record that didn't align very well with the repair processes in this class. This outcome is now a student repair project and this works well because the students create projects in the first half of the semester and learn how to implement a repair process to those projects.

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

Outcome 1: Recognize and apply shop rules, procedures and safety standards associated with composite materials.

- Assessment Plan
  - Assessment Tool: Departmentally-developed safety test
  - Assessment Date: Winter 2022
  - Course section(s)/other population: All sections
  - Number students to be assessed: All students
  - How the assessment will be scored: Answer key
  - Standard of success to be used for this assessment: 75% of students will score 100% on their first attempt, and all students must score 100%.
  - Who will score and analyze the data: Departmental faculty

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) |
|-----------------------------|-------------------------------|------------------------------|
|                             | 2023, 2022                    |                              |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 19                     | 19                     |

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.

All students in all sections were assessed.

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 in both sections met face to face. One section met for an all-day Friday class and one section met at night two days a week on Monday and Wednesday.

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

We used a departmentally-created test for shop rules and safety standards. Students are required to take a test until 100% is achieved. Students are given

multiple attempts to pass the test with 100%. Students must pass the shop rules and safety standards test to be able to move on in the lab. Safety is very important when working with composite materials, and the students need to be very clear on the rules.

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 results of the data collected for this outcome showed: All students scored 100% on the shop rules, procedures and safety test. Three students scored 100% on the second attempt. The results showed that 16/19 (84%) of the students scored 100% or better on the first try.

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

All students did extremely well with following procedures and using and wearing proper protection when working with composite material. This area is stressed really well in the beginning to make sure students are aware that safety procedures and equipment are very important when working with composite materials.

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.

I don't think anything needs to be changed for this learning outcome, but as equipment and materials change, the rules and equipment needs to change with them. These students have taken many classes before reaching this class and at this stage are very used to rules and safety equipment.

Outcome 2: Create projects utilizing composite materials.

- Assessment Plan
  - Assessment Tool: Student project
  - Assessment Date: Winter 2020
  - 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: 75% of students will score 80% or better.
- Who will score and analyze the data: Departmental faculty

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, 2023                    |                              |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 19                     | 19                     |

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.

All students in all sections were assessed.

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 in both sections met face to face. One section met for an all-day Friday class and one section met at night two days a week on Monday and Wednesday.

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

We used a student project planning sheet to assess this outcome. Students are required to create a project plan to take into account the list of materials, material schedule, bleeder list, bleeder schedule and use the correct method to complete the composite part. Points are assessed for all five fully completed categories.

Project rubric:

Completed material list 10pts

Completed material schedule 10pts

Completed bleeder list 10pts

|                                  |
|----------------------------------|
| Completed bleeder schedule 10pts |
| Completed project (part) 10pts   |
| Total possible 50pts             |

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.

|  |
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| Met Standard of Success: <u>Yes</u>  |
| The results of the data collected for this outcome showed that all students did extremely well in this outcome, scoring between 89 and 100%. The standard of success of 75% of students scoring 80% or better was met. |

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

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|--|
| Students performed well with developing project plans and creating the part for the project. The students had to go through each step of the plan in order to have the project come out correctly. This group did exceptionally well with documenting the plan and hands-on execution of the projects. |
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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.

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| A few students missed points because they didn't take the time to make sure they had the documentation filled out. This part of the class is very repetitive but necessary to make sure the part comes out as intended. A planning book and guide were implemented to help make it easier for students to document their projects. |
|--|

Outcome 3: Perform repairs to various composite materials including the application, infusion and curing of polymer resins.

- Assessment Plan
  - Assessment Tool: Student repair project
  - Assessment Date: Winter 2020
  - 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: 75% of students will score 80% or better.
- Who will score and analyze the data: Departmental faculty

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) |
|-----------------------------|-------------------------------|------------------------------|
|                             | 2023, 2022                    |                              |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 19                     | 19                     |

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.

All students in all sections were assessed.

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 in both sections met face to face. One section met for an all-day Friday class and one section met at night two days a week on Monday and Wednesday.

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

We used a departmentally-created project repair plan. The material project plan requires proper materials list, material schedule, bleeder list, bleeder schedule and final project. This outcome requires students to perform a repair project on various composite parts created in outcome 2.

Project and repair rubric:

Completed material list 10pts

Completed material schedule 10pts

Completed bleeder list 10pts

|                                       |
|---------------------------------------|
| Completed bleeder schedule 10pts      |
| Completed repair project (part) 10pts |
| Total possible 50pts                  |

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: <u>Yes</u>   |
| The results of the data collected for this outcome showed all students scored between 85% and 100%. The standard of success of 75% of students scoring 80% or better was met. |

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

|   |
|---|
| Students performed extremely well on this outcome. Organization, time management, execution, and use of equipment were the highlights for this outcome. This group of students were near the end of their degrees and entered this class with a lot of knowledge and hands-on experience, and by the second half of the semester they were able to really achieve well on projects. |
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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.

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| One thing to possibly improve would be to add a few more challenging projects near the end to see how far they can go with this class. |
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### 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.

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|---|
| The last assessment led to a change in the assessment tools. The assessment tool for outcome 1 simplified the safety information and equipment for the students in passing the safety quiz with 100% before heading to the lab. Assessment tools for outcome 1 and 2 are related to the projects that students complete. This change led to a better way to compile and analyze 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?

This course is meeting the needs of the students and industry. I think this assessment showed that the course is going down the right path and showed me areas that can be improved regarding some new objectives and challenging the students. Students are achieving at a high rate and because of this, more aggressive and higher-level projects can be introduced.

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

This information will be shared freely with the Transportation Technologies department before the beginning of the upcoming Fall semester and before any action plans take place.

- Intended Change(s)

| Intended Change | Description of the change  | Rationale  | Implementation Date |
|-----------------|--|--|---------------------|
| Objectives      | Update objectives to meet current practices of composite materials, processes, and applications. | The composite industry is always evolving and new processes and materials are being introduced. Students need to be up to date on these changes. | 2023                |

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

6.

### III. Attached Files

[ABR 201 Data](#)

**Faculty/Preparer:** Robert Lowing **Date:** 07/25/2023  
**Department Chair:** Rocky Roberts **Date:** 08/16/2023  
**Dean:** Jimmie Baber **Date:** 08/28/2023  
**Assessment Committee Chair:** Jessica Hale **Date:** 02/14/2024

**Course Assessment Report  
Washtenaw Community College**

| Discipline  | Course Number   | Title   |
|---|-----------------|---|
| Auto Body Repair<br>(inactive)                      | 201             | ABR 201 04/15/2019-<br>Lightweighting Composite<br>Repair |
| Division  | Department      | Faculty Preparer  |
| Advanced Technologies<br>and Public Service Careers | Automotive Body | Robert Lowing   |
| 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: Recognize and apply shop rules, procedures and safety standards associated with composite materials.

- Assessment Plan
  - Assessment Tool: Departmentally-developed tests
  - Assessment Date: Winter 2020
  - Course section(s)/other population: All sections.
  - Number students to be assessed: All students.
  - How the assessment will be scored: Answer key

- Standard of success to be used for this assessment: 75% of students will score 80% or better.
- Who will score and analyze the data: Departmental faculty

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) |
|-----------------------------|-------------------------------|------------------------------|
| 2018                        |                               |                              |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 7                      | 7                      |

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.

All students in all sections were assessed.

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 in all sections met face to face for an all-day Friday class.

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

We used a departmentally created test for shop rules and safety standards. Students are required to take a test until 100% is achieved. Students are given multiple attempts to pass the test with 100%. Students must pass the shop rules and safety standards test to be able to move on in the lab. Safety is very important when working with composite materials, and the students need to be very clear on the rules.

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 results of the data collected for this outcome showed:

All students scored 100% on the shop rules, procedures and safety test. Two students scored 100% on the second attempt.

The results showed that the students met the standard of successt of 75% of students scoring 80% or better.

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

All students did extremely well with following procedures and using and wearing proper protection when working with composite material. This area is stressed really well in the beginning to make sure students are aware that safety procedures and equipment are very important when working with composite materials.

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.

I don't think anything needs to be changed for this learning outcome, but as equipment and materials change, the rules and equipment needs to change with them. These students have taken many classes before reaching this class and at this stage are very used to rules and safety equipment.

Outcome 2: Develop repair plans for composite materials.

- Assessment Plan
  - Assessment Tool: Repair plan checklist.
  - Assessment Date: Winter 2020
  - 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: 75% of students will score 80% or better.
  - Who will score and analyze the data: Departmental faculty.

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) |
|-----------------------------|-------------------------------|------------------------------|
| 2018                        |                               |                              |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 7                      | 7                      |

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.

All students in all sections were assessed.

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 the students in all sections met face to face for an all-day Friday class.

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

We used a departmentally created project plan. Students are required to create a project repair plan to take in account the list of materials, schedule, bleeder list, bleeder schedule and the method used to complete the part. Points are assessed for all five categories.

Project rubric:

|                             |       |
|-----------------------------|-------|
| Completed material list     | 10pts |
| Completed material schedule | 10pts |
| Completed bleeder list      | 10pts |
| Completed bleeder schedule  | 10pts |
| Completed project (part)    | 10pts |
| Total possible              | 50pts |

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 results of the data collected for this outcome showed that all students did extremely well in this outcome, scoring between 93 and 100%.

All students met the standard of success of 75% of students will score 80% or better.

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

Students performed well with developing project plans and creating the part for the project. The students had to go through each step of the plan in order to have the project come out correctly. This group did exceptionally well with documenting the plan and hands-on execution of the projects.

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.

A few students missed points because they didn't take the time to make sure they had the documentation filled out. This part of the class is very repetitive but necessary to make sure the part comes out as intended. I would like to come up with a planning book and guide to help make it easier to document their projects.

Outcome 3: Perform repairs to various composite materials including the application, infusion and curing of polymer resins.

- Assessment Plan
  - Assessment Tool: Student Achievement Records
  - Assessment Date: Winter 2020
  - 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: 75% of students will score 80% or better.
  - Who will score and analyze the data: Departmental faculty.

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) |
|-----------------------------|-------------------------------|------------------------------|
| 2018                        |                               |                              |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 7                      | 7                      |

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.

All students in all sections were assessed.

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 the students in all sections met face to face for an all day Friday class.

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

We used a departmentally created project plan. The material project plan requires proper materials list, schedule, bleeder list, bleeder schedule and final project.

Project and repair rubric:

|                             |       |
|-----------------------------|-------|
| Completed material list     | 10pts |
| Completed material schedule | 10pts |
| Completed bleeder list      | 10pts |
| Completed bleeder schedule  | 10pts |
| Completed project (part)    | 10pts |
| Total possible              | 50pts |

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 results of the data collected for this outcome showed all students scored between 95% and 100%.

All students met the standard of success of 75% of students will score 80% or better.

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

Students performed extremely well on this outcome. Organization, time management, execution, and use of equipment were the highlights for this outcome. This group of students was near the end of their degrees and entered this class with a lot of knowledge and hands-on experience, and by the second half of the semester they were able to really achieve well on projects.

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.

One thing to possibly improve would be to add a few more challenging projects near the end to see how far they can go with this class.

### 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.

2.

3. 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?

This course is meeting the needs of the students and industry. I think this assessment showed that the course is going down the right path and showed me areas that can be improved regarding the assessment tools and challenging the students more.

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

This information will be shared freely with the department before the beginning of the Fall semester and before any action plans take place.

5.

Intended Change(s)

| Intended Change | Description of the change                     | Rationale   | Implementation Date |
|-----------------|---|---|---------------------|
| Assessment Tool | Outcome 2 to utilize student projects.        | Outcome 2 currently has a repair plan checklist as the assessment tool and this was found to be very hard to correctly assess the information. By moving to a project plan, this would be a much better laid out process to look at the data and more clear to the students.  | 2019                |
| Assessment Tool | Outcome 3 to utilize student repair projects. | Outcome 3 currently has a student achievement record that doesn't align very well with the class. In the first half of the semester, the students create project or parts, and in the second half of the semester, the students go into repair processes based on the projects or parts created. Using student repair projects would be better suited and lay out a better plan for the students to follow. | 2019                |
| Assessment Tool | Outcome 1 to reflect students                 | Outcome 1 needs to have an emphasis   | 2019                |

|  |  |   |  |
|--|--|---|--|
|  | needing to score 100% on departmentally developed safety test. | on safety before going to the lab and working with these materials. Having the students score 100% on the safety test would ensure that the students are aware and capable of following these procedures. |  |
|--|--|---|--|

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

|    |
|----|
| 7. |
|----|

### III. Attached Files

[ABR 201 assessment data](#)

**Faculty/Preparer:** Robert Lowing      **Date:** 07/03/2019  
**Department Chair:** Timothy VanSchoick      **Date:** 07/05/2019  
**Dean:** Brandon Tucker      **Date:** 07/08/2019  
**Assessment Committee Chair:** Shawn Deron      **Date:** 08/19/2019