

DEADLINE: June 30th, 2023 Revised 01.28.2021

BROOKLYN COLLEGE ANNUAL STUDENT-FACING AES UNIT ASSESSMENT REPORT

Brooklyn College Annual AES Unit Assessment Report, 2022-23

The Assessment Report form collects results of assessments conducted during the 20<u>22-23</u> year. The data/evidence and results submitted in this report should tie directly to the outcomes identified in the Unit's Detailed Assessment Plan. See the *Brooklyn College AES Assessment Handbook* for guidance and examples.

Administrative Division:	Academic Affairs
Administrative Unit:	The Learning Center
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Instructions: Use this template to report on your assessment plan and assessment results for the 20<u>22</u>-20<u>23</u> assessment cycle. If you have any questions or would like assistance completing this report, please contact Institutional Effectiveness at IE@Brooklyn.CUNY.edu.

College Mission

Brooklyn College provides a transformative, distinctive, and affordable education to students from all backgrounds. We are proud of our history of intellectual freedom and academic excellence, as well as our location in a borough known for innovation, culture, and the arts. We have a special commitment to educate immigrants and first-generation college students from the diverse communities that make up our city and state. Our striving spirit reflects our motto: "Nothing without great effort." Through outstanding research and academic programs in the arts, business, education, humanities, and sciences, we graduate well-rounded individuals who think critically and creatively to solve problems. They become leaders who transform their fields and professions and serve our increasingly global community.

Institutional Learning Outcomes (ILOs)

- Think critically and creatively,
- Effectively express your thoughts,
- Make sound ethical judgments,
- Integrate knowledge from diverse sources, and
- Become an informed and responsible citizen of the world.

Divisional Themes/Pillars

- 1. Further the academic progress of all students
- 2. Strengthen academic and academic support programming
- 3. Enhance support and development of faculty

Brooklyn College

OFFICE OF EDUCATIONAL RESEARCH AND ASSESSMENT

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Executive Summary of Assessment Results:

Briefly summarize the major findings from the evaluation of your assessment results for each outcome assessed in this report. *Provide a bulleted list of findings, with a maximum of four bullet points per outcome.*

Outcome 1 Hold well-attended pre-semester workshops for students registered in Math courses 1011, 1021, and 1026.

- The Center did not meet its target for this outcome, although there was a slight improvement.
- The strategy to nudge weekly for registration before the session hasn't worked particularly well for Math 1011 & 1012.
- We now aim to add additional session times to accommodate those who found workshop times inconvenient; continue to nudge weekly for all courses mentioned above; and collaborate and coordinate with Communications to promote the workshops to targeted students via distributed flyers.
- The Center will move 2% of its budget to address the effort to hold better attended workshops at more convenient times for students. The Center is requesting a \$100 increase in budget to allow for the printing of flyers to help increase workshop visibility and improve attendance.

Outcome 2 Improve mastery of key algebraic concepts via pre-semester workshops.

- The Center did not meet its target for this outcome.
- While the additional Q&A has improved mastery overall, this improvement strategy did not lead to the
 outcome target being met, and improvement on the key area of circle equations hasn't budged since the
 last data collection.
- The Center plans to add an additional workshop on just circle equations to help improve mastery in this key concept.
- The Center will move 5% of its budget to address the effort to create this additional workshop and train staff using best practices. The Center is requesting a \$500 increase in budget to allow for the additional staff training and materials and time required to hold the additional workshop to address the low mastery of circle equations among targeted students.

Outcome 4 Improve student satisfaction with supplemental pre-calculus review workshops during set days/times throughout the semester which differ from the traditional drop-in tutoring model.

- The Center succeeded in meeting its target for this outcome.
- The strategies implemented training staff and incorporating peer tutors in the workshops have led to meeting satisfaction targets.
- The Center will continue to conduct these workshops in this manner and monitor satisfaction at a new target of 80%.
- No budgetary requests are being made for this outcome.



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Ranking of Budgetary Considerations for Planned Operational Improvements: Rank improvements listed for each outcome in order of importance in terms of resource allocation (1 highest importance, 5 lowest). List the improvement in full and make sure to list its associated outcome. Then list its alignment to the 2018-2023 Strategic Plan 2.0. Below the ranking, please provide data-based justification for the planned improvement. Guidelines regarding communication/responses to budgetary requests/considerations for improvement planning are forthcoming from the IE and Finance and Administration Offices.

Rank	Planned Operational Improvement	Outcome	Strategic Plan Objective
1	Addition of a circle equation workshop for targeted students in MATH 1011, 1012, and 1026.	2	2.1
2	Additional outreach (flyers) for Math 1011 and 1012 targeted students.	1	2.1
3			
4			
5			

- 1. Students need mastery of these concepts to stand a chance of passing the courses; this is essential for completion and retention.
- 2. A campaign to promote the workshops will increase engagement and visibility for these workshops that help students improve their math outcomes.

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4.

5.

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Unit Mission

The Brooklyn College Learning Center (LC) provides peer tutoring and utilizes national best practices that allow students to achieve their academic goals. Academically, we meet students where they are, and take them where they want to be. With support from the Office of Institutional Research, the LC designs relevant interventions for need areas. Empowering students to cultivate the skills and behaviors of confident, independent, and lifelong learners, the LC furthers Brooklyn College's focus on student-driven learning, and increased retention and graduation rates.

Unit Mission Alignment to College Mission. Fill in or copy paste as needed.

Recoded Brooklyn College Mission Statement for Mapping

College Mission Statement	Code
Brooklyn College provides a transformative, distinctive, and affordable education to students from all backgrounds. We are proud of our history of intellectual freedom and academic excellence, as well as our location in a borough known for innovation, culture, and the arts.	CMS_1
We have a special commitment to educate immigrants and first-generation college students from the diverse communities that make up our city and state.	CMS_2
Our striving spirit reflects our motto: "Nothing without great effort." Through outstanding research and academic programs in the arts, business, education, humanities, and sciences, we graduate well-rounded individuals who think critically and creatively to solve problems.	CMS_3
They become leaders who transform their fields and professions and serve our increasingly global community.	CMS_4

Alignment of Unit Mission Statement to College Mission

Please indicate how each statement aligns to college mission by marking with an "X".

Unit Mission Statement	CMS _1	CMS _2	CMS _3	CMS _4
The Brooklyn College Learning Center (LC) provides peer tutoring and utilizes national best practices that allow students to achieve their academic goals.	X		X	X
Academically, we meet students where they are, and take them where they want to be. With support from the Office of Institutional Research, the LC designs relevant interventions for need areas.	X	X	X	X
Empowering students to cultivate the skills and behaviors of confident, independent, and lifelong learners, the LC furthers Brooklyn College's focus on student-driven learning, and increased retention and graduation rates.	X		X	X



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Unit Outcomes Alignment to the 2018-2023 Strategic Plan: List the full outcome and its alignment to the 2018-2023 Strategic Plan (e.g., Outcome in full, aligned with Strategic Plan Goal 1.2). *The* Brooklyn College Worksheet for Identifying and Defining AES Unit Goals is provided for reference in Appendix A, if needed.

2018-2023 Strategic Plan 2.0 can be found at: http://www.brooklyn.cuny.edu/web/abo president/Strategic-Plan-2018-2023-2.0.pdf

Unit Goal	Outcomes	SLO or Non-SLO	Divisional Theme/Pillar	Strategic Plan Objective
Goal 1: Provide early intervention for all students registered for Math 1011, 1021, or 1026.	Outcome 1: Hold well-attended pre-semester workshops for students registered in Math courses 1011, 1021, and 1026.	Non-SLO	1. Further the academic progress of all students	2.1 Increase our rates of student retention and degree completion.
Goal 1: Provide early intervention for all students registered for Math 1011, 1021, or 1026.	Outcome 2: Improve mastery of key algebraic concepts via pre-semester workshops.	SLO	1. Further the academic progress of all students	2.1 Increase our rates of student retention and degree completion.
Goal 2: Improve pass rates in Chemistry 1050 and Chemistry 1100.	Outcome 3: Increase final exam pass rates by 20% for faculty- and tutor-hosted final exam review session attendees	SLO	1. Further the academic progress of all students	2.1 Increase our rates of student retention and degree completion.
Goal 3: Optimize Supplemental Instruction Curriculum supporting students enrolled in various levels of Pre-Calculus and CISC 1115.	Outcome 4: Improve student satisfaction with supplemental pre-calculus review workshops during set days/times throughout the semester which differ from the traditional drop-in tutoring model	Non-SLO	2. Strengthen academic and academic support programming	2.4 Enhance student support programs, including those for special populations, such as transfer students, students with disabilities, veterans, and international students.
Goal 3: Optimize Supplemental Instruction Curriculum supporting students enrolled in various levels of Pre-Calculus and CISC 1115.	Outcome 5: Increase attendance at CISC "Booster" workshops	Non-SLO	2. Strengthen academic and academic support programming	2.4 Enhance student support programs, including those for special populations, such as transfer students, students with disabilities, veterans, and international students.



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Unit Mission Alignment to College ILOs. Fill in or copy paste as needed.

Please indicate how each statement part aligns to each ILO by marking with an "X"

Unit Mission Statement The Brooklyn College Learning Center (LC)	Think critically and creatively	Effectively express their thoughts	Make sound ethical judgments	Integrate knowledge from diverse sources	Become an informed and responsible citizen of the world
provides peer tutoring and utilizes national best practices that allow students to achieve their academic goals.	X	X	X	X	X
Academically, we meet students where they are, and take them where they want to be. With support from the Office of Institutional Research, the LC designs relevant interventions for need areas.	X	X		X	
Empowering students to cultivate the skills and behaviors of confident, independent, and lifelong learners, the LC furthers Brooklyn College's focus on student-driven learning, and increased retention and graduation rates.	X	X		X	X

Add additional rows as needed



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Detailed AES Unit Assessment Planning Document (Abbreviated). Fill in or copy paste as needed (a sample is provided in Appendix B).

Unit Goal	Strategic Plan Objective	Outcome	SLO or Non-SLO	Assessment Method(s)	Source of Data	Timeframe for Data Collection	Coordinating Staff	Timeframe for Evaluation of Assessment Results	Timeline for Use of Results (if applicable)	Re-Assess/ Data Collection (semester)	Evaluate Effectiveness of Results- based Changes
Goal 1: Provide early intervention for all students registered for Math 1011, 1021, or 1026.	2.1	Outcome 1: Hold well-attended pre-semester workshops for students registered in Math courses 1011, 1021, and 1026.	Non-SLO	Tracking Workshop Attendance	All Workshops	Summer 2019	Geraldine Wichy	Fall 2019	Spring 2020 - Spring 2022	Summer 2022	Fall 2022
Goal 1: Provide early intervention for all students registered for Math 1011, 1021, or 1026.	2.1	Outcome 2: Improve mastery of key algebraic concepts via presemester workshops.	SLO	Pre- and post- workshop quizzes	All students who attend the workshops	Summer 2019	Richard Vento	Fall 2019	Spring 2020 - Spring 2022	Summer 2022	Fall 2022
Goal 2: Improve pass rates in Chemistry 1050 and Chemistry 1100.	2.1	Outcome 3: Increase final exam pass rates by 20% for faculty- and tutor-hosted final exam review session attendees	SLO	CHEM 1050 and 1100 exam results	Students who attend the review sessions	Fall 2020	Richard Vento	Spring 2021	Summer 2021 - Summer 2023	Fall 2023	Spring 2024
Goal 3: Optimize Supplemental Instruction Curriculum supporting students enrolled in various levels of Pre-Calculus and CISC 1115.	2.4	Outcome 4: Improve student satisfaction with supplemental pre-calculus review workshops during set days/times throughout the semester which differ from the traditional drop-in tutoring model	Non-SLO	Post-Workshop Satisfaction Survey	Pre-Calculus students who attend workshop	Spring 2022	Geraldine Wichy	Summer 2022	Fall 2022 - Fall 2024	Spring 2025	Summer 2025
Goal 3: Optimize Supplemental Instruction Curriculum supporting students enrolled in various levels of Pre-Calculus and CISC 1115.	2.4	Outcome 5: Increase attendance at CISC "Booster" workshops	Non-SLO	Track number of invitation postcards sent; Track workshop attendance as percentage of those contacted	Students enrolled in CISC 1115	Spring 2021	Richard Vento	Summer 2021	Fall 2021 - Fall 2023	Spring 2024	Summer 2024

^{1.} List the full statement of outcomes - do not leave as Outcome #1

^{2.} The number of outcomes will vary per unit 3. Student-facing units <u>MUST</u> have Student Learning Outcomes



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Assessment Outcomes and Evaluation

One outcome is listed in this template, but please continue to populate the template for all outcomes you will be assessing in this report, i.e., Outcome 1, Outcome 2, etc.

Outcome 1 (as submitted in the Detailed Assessment Planning Document): List the outcome in full.

Hold well-attended pre-semester workshops for students registered in Math courses 1011, 1021, and 1026.

Summary of Assessment Methods for Outcome 1: (What did you assess? What methods/assessment instruments did you use? What is the target you expected to achieve to meet the outcome? When did the assessment occur? What sort of sampling method was used?) *Please refer to glossary in Appendix C for definitions.*

We assessed attendance at summer 2022 pre-semester workshops for Math 1011, 1021, and 1026 for fall 2022 students. All students registered in these courses with an Accuplacer score of 95 or lower (50% of all students enrolled in these courses) were contacted via email to register one month prior to the start of workshops, and their EMPLIDs were taken down as part of workshop attendance. The target was to get 65% of these students to attend the workshops, in the individual courses and in total.

Results for Outcome 1: (Provide a detailed summary of results for Outcome 1. Be as specific as possible; include percentages or numbers that resulted from the assessments. Include graphs, tables, and/or figures, if applicable. Compare results to prior years, if applicable.)

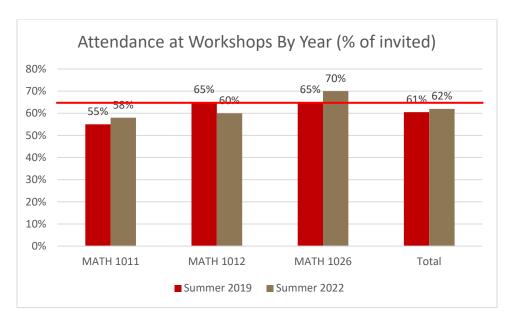
Of 300 students contacted to attend, 186, or 62%, attended. The table below provides a breakdown by course:

Course	N Contacted to Attend	Attended	Percentage in
			Attendance
MATH 1011	120	70	58%
MATH 1012	100	60	60%
MATH 1026	80	56	70%
Total	300	186	62%

A comparison bar chart of the summer 2022 to the summer 2019 data collection is below:



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Total attendance percentage has gone up 1% from the last data collection. Individual course attendance has varied. Math 1011 attendance has gone up 3 percentage points. Math 1012 has decreased by 5 percentage points. Math 1026 has increased by 5 percentage points.

Evaluation of Results for Outcome 1: (Did you meet the target you expected to achieve? What strengths and/or weaknesses did your results reveal?)

While the total percentage of attendees has increased slightly by 1 percentage point, it has not increased to its target of 65%. Math 1011 has increased slightly, but is still 7 percentage points below target. Math 1012 has decreased significantly, now 5 percentage points below target. Math 1026 has increased to 70% attendance, 5 percentage points beyond the target. The Center needs to focus its efforts on Math 1011 and Math 1012 students. The 2019 strategy of adding weekly email nudges has not worked very well. Some attendees and those who were not able to attend have mentioned that the workshop times are not convenient.

Use of Results for Outcome 1: (What do you plan to do with the results? Provide a brief explanation of how the results are going to be used to make <u>specific</u> changes within the Unit.)

In light of these results, the Center has decided to focus additional outreach efforts on Math 1011 and 1012 while maintaining the level of outreach for 1026 that it had developed prior to the first data collection in summer 2019, with weekly nudges for registration and attendance sent via email. The Center will work with Communications to develop flyers targeted at Math 1011 and 1012 students to increase workshop visibility. In addition, the Center will work to provide one additional session for each course at more convenient attendance times, as some verbal feedback from students has been that this is needed.

This decision was made during a unit meeting held on November 15, 2022, where Richard Vento and Geraldine Wichy discussed priorities based on these results, which had been distributed to the unit for review in October 2022.



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Budgetary Considerations for Outcome 1, Unit-focused: (What, if any, changes can be made inside the unit in terms of resource redistribution, to implement these changes?)

The Center will move 2% of its budget to address the effort to hold better attended workshops at more convenient times for students.

Budgetary Considerations for Outcome 1, request to Division Head: (What, if any, resources should be considered for use to help implement these changes?)

The Center is requesting a \$100 increase in budget to allow for the printing of flyers to help increase workshop visibility and improve attendance.



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Outcome 2 (as submitted in the Detailed Assessment Planning Document): List the outcome in full.

Improve mastery of key algebraic concepts via pre-semester workshops.

Summary of Assessment Methods for Outcome 2: (What did you assess? What methods/assessment instruments did you use? What is the target you expected to achieve to meet the outcome? When did the assessment occur? What sort of sampling method was used?) *Please refer to glossary in Appendix C for definitions.*

We assessed attendees at pre-calculus workshops held in August of 2022 pre-semester workshops for Math 1011, 1021, and 1026 for fall 2022 students. All students registered in these courses with an Accuplacer score of 95 or lower (50% of all students enrolled in these courses) were contacted via email to register one month prior to the start of workshops, and their EMPLIDs were taken down as part of workshop attendance. All attendees took a pre-workshop quiz and a post-workshop quiz to see if mastery of key concepts improved after the workshop. Quizzes are attached as attachment 1 for reference. We targeted a 50% improvement of mastery (100% on questions) from the pre-workshop quiz to the post-workshop quiz. 186 students attended, or 62% of the target population.

Results for Outcome 2: (Provide a detailed summary of results for Outcome 2. Be as specific as possible; include percentages or numbers that resulted from the assessments. Include graphs, tables, and/or figures, if applicable. Compare results to prior years, if applicable.)

Of the 186 students who attended, mastery improvement from the pre-workshop quiz to the post-workshop quiz was 40%. This is a 10 percentage-point improvement from summer 2019 results (N = 218), where mastery improved by 30%.

Evaluation of Results for Outcome 2: (Did you meet the target you expected to achieve? What strengths and/or weaknesses did your results reveal?)

While the percentage of mastery improved by 10 percentage points, we failed to meet the 50% target that was set. Most students still had the most trouble with circle equations; mastery here improved by just 20%, the same as in 2019. The strategy of adding 15 minutes of Q&A to the sessions has helped a little, but the target has not been met.

Use of Results for Outcome 2: (What do you plan to do with the results? Provide a brief explanation of how the results are going to be used to make <u>specific</u> changes within the Unit.)

In light of these results, the Center has decided to focus additional efforts to improve mastery of circle equations. The Center will add an additional 1-hour workshop dedicated to this topic. The Center began training of staff for this new workshop in spring 2023, with a rollout targeted for August 2023.



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This decision was made during a unit meeting held on November 15, 2022, where Richard Vento and Geraldine Wichy discussed priorities based on these results, which had been distributed to the unit for review in October 2022.

Budgetary Considerations for Outcome 2, Unit-focused: (What, if any, changes can be made inside the unit in terms of resource redistribution, to implement these changes?)

The Center will move 5% of its budget to address the effort to create this additional workshop and train staff using best practices.

Budgetary Considerations for Outcome 2, request to Division Head: (What, if any, resources should be considered for use to help implement these changes?)

The Center is requesting a \$500 increase in budget to allow for the additional staff training and materials and time required to hold the additional workshop to address the low mastery of circle equations among targeted students.



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Outcome 4 (as submitted in the Detailed Assessment Planning Document): List the outcome in full.

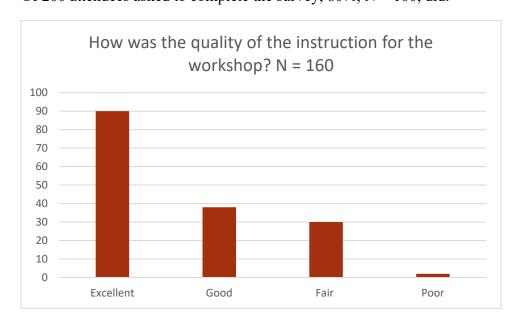
Improve student satisfaction with supplemental pre-calculus review workshops during set days/times throughout the semester which differ from the traditional drop-in tutoring model.

Summary of Assessment Methods for Outcome 4: (What did you assess? What methods/assessment instruments did you use? What is the target you expected to achieve to meet the outcome? When did the assessment occur? What sort of sampling method was used?) *Please refer to glossary in Appendix C for definitions.*

All attendees of the four monthly workshops throughout the spring 2022 semester were asked to complete an anonymous satisfaction survey (a copy of the survey items is provided as attachment 2) at the end of each workshop. Results were analyzed, with a target of 75% rating the workshop as "good" or "excellent".

Results for Outcome 4: (Provide a detailed summary of results for Outcome 4. Be as specific as possible; include percentages or numbers that resulted from the assessments. Include graphs, tables, and/or figures, if applicable. Compare results to prior years, if applicable.)

Of 200 attendees asked to complete the survey, 80%, N = 160, did.



128, or 80% of respondents felt that instruction was "good" or "excellent".



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Evaluation of Results for Outcome 4: (Did you meet the target you expected to achieve? What strengths and/or weaknesses did your results reveal?)

80% of respondents felt that instruction was "good" or "excellent", exceeding the target of 75% by 5 percentage points. The results show that the workshops are exceeding expectations at this time. After the original data collection in 2019, the Center decided to improve satisfaction by training staff and incorporating peer tutors into the workshops. These improvement strategies have correlated with an increase in student satisfaction.

Use of Results for Outcome 4: (What do you plan to do with the results? Provide a brief explanation of how the results are going to be used to make <u>specific</u> changes within the Unit.)

As the target of 75% satisfaction has been exceeded, the Center will aim for a target 80% "good" or "excellent" on its next satisfaction survey (maintain).

These results and this decision were discussed at a July 2022 office meeting and Richard Vento and Geraldine Wichy made the decision to increase the target.

Budgetary Considerations for Outcome 4, Unit-focused: (What, if any, changes can be made inside the unit in terms of resource redistribution, to implement these changes?)

The Center will not make any budgetary changes to address this outcome as it has exceeded its target.

Budgetary Considerations for Outcome 4, request to Division Head: (What, if any, resources should be considered for use to help implement these changes?)

The Center will not request any budgetary changes to address this outcome as it has exceeded its target.



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The Impact of Changes Made in the Unit Due to Assessment Activities:

Please discuss how previously planned improvements or improvements implemented within this year have affected your Unit since implementation. Please discuss any improvements over time, any difficulties in implementation, and/or any measurable improvement to student learning, if applicable.

The use of assessment data to make improvements has led to a more concerted and organized effort to improve outcomes within the Center. For example, for Outcome 5, review of the timing of invitation postcards made it clear that attendance was highest when the postcards arrived one week prior to the sessions and were accompanied by a digital invitation and a follow-up (digitally) one day prior to the workshop. This made the Center coordinate with Communications and the mailroom, and attendance has increased by 35%. This review and reflection process has made our Center a more organized and focused unit to help improve unit and student outcomes.

In terms of challenges, the Center has one staff member on maternity leave this spring semester, so implementing improvement strategies has been slightly more challenging without the additional pair of hands. We are thus behind in staff training for outcome 3.



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Optional Documentation

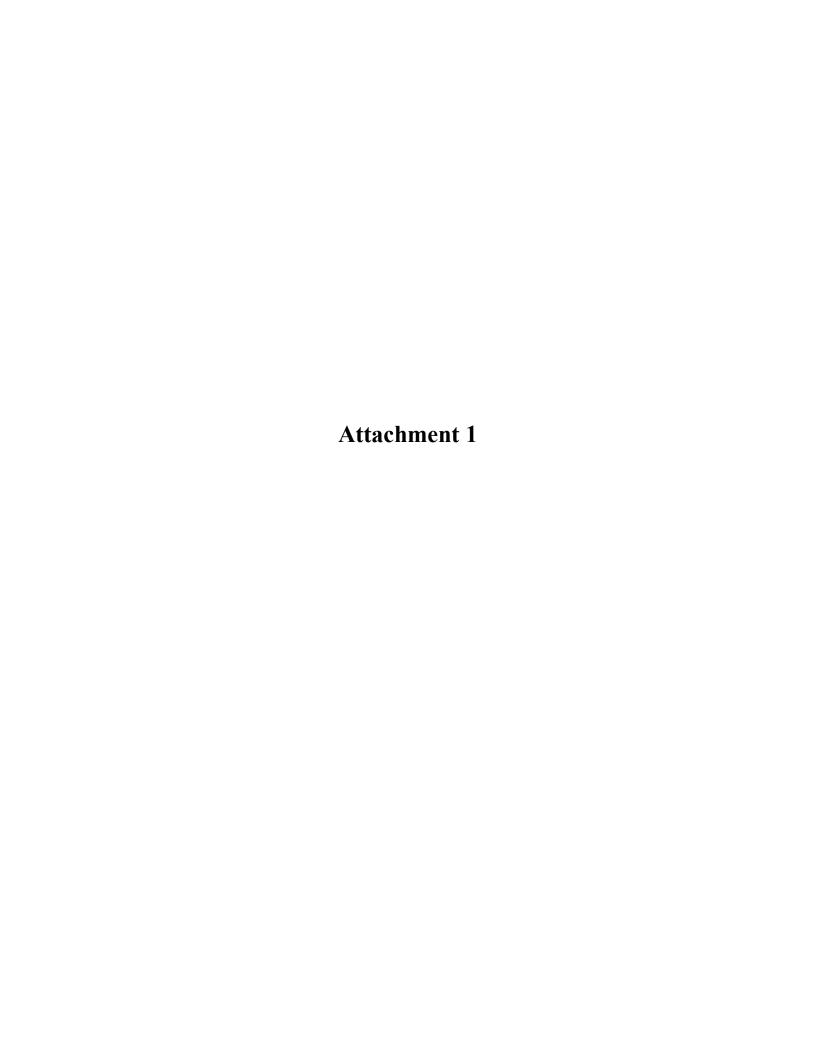
Indirect Measures of Student Learning: If student-facing, please list any indirect measures of assessment as well as their results below. Please discuss any analyses done and any actions taken based on the results. **Examples of evidence of student learning can be found in Appendix D.**

Students were given a 4-question post-workshop survey in the algebra workshops to evaluate their confidence on key algebraic concepts that have students have struggled with, in alignment with Outcome 2, "Improve mastery of key algebraic concepts via pre-semester workshops". The most recent survey shows that, along with low performance with circle equations, out of 175 students who completed the survey, 105, or 60%, said that they were "Not very confident" or "Not at all confident" with the statement, "I can correctly solve a circle formula problem on a timed exam or quiz". This confirms that circle equations are an algebraic topic that students will need additional support in from the Learning Center.

The survey instrument is attached (attachment 2).

External Recognition: Please feel free to share any instances of recognition for your Unit.

The Center has received an award in spring 2023 for excellence in inter-divisional collaboration for its work with the Chemistry department to help improve student outcomes in CHEM 1050 and 1100.



PRE-Workshop Quiz August 13, 2022

1. Find the center and radius of the circle with standard equation .

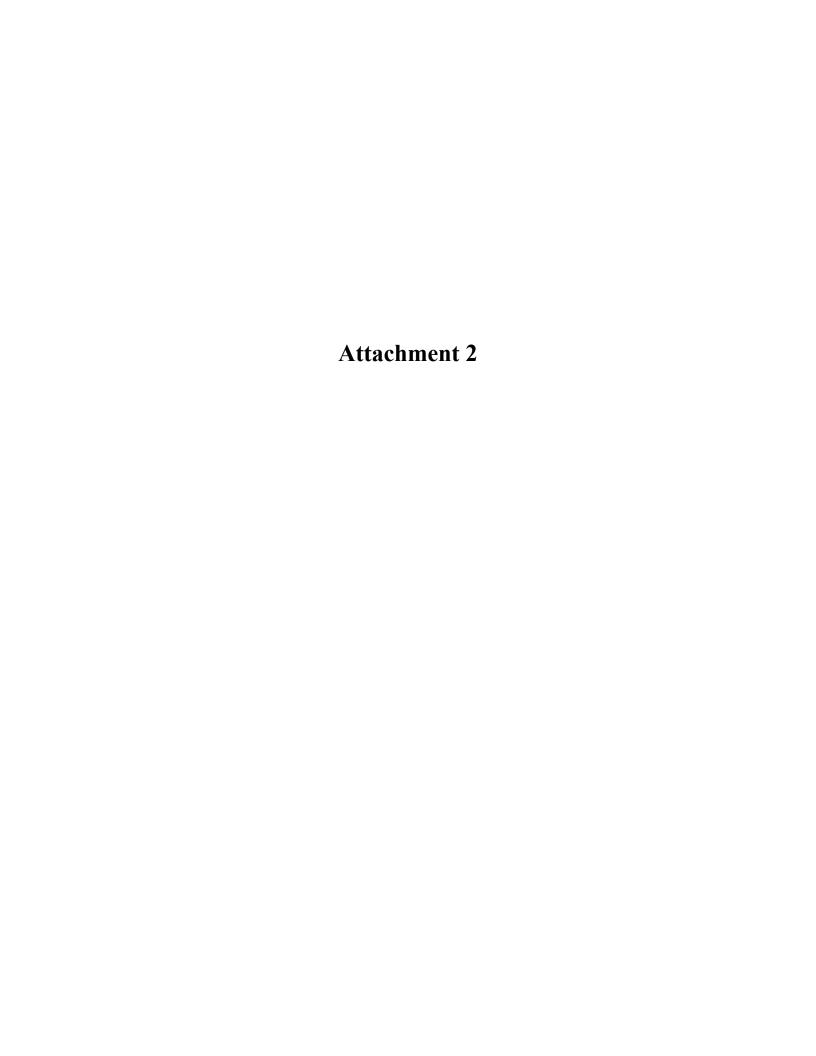
$$x^2 + 6x + y^2 - 8y - 11 = 0$$

2. Use the distance formula to find an equation of the perpendicular bisector of the line segment between the points (4,3) and (-2,5).

3. Use the distance formula to determine if the point P(8,2) is inside, outside, or $x^2-6x+y^2+8y-39=0$ on the circle with equation

- 1. Find the point on the circle with equation $(x+3)^2 + (y-2)^2 = 20$ which is closest to the point .
- 2. Calculate the distance from the point P(1,3) to the line 3x 4y = 21.

3. Find an equation of the circle with center C(7,-5) which is tangent to the x-axis.



Pre-Calculus Workshop Satisfaction Survey

- 1. In your opinion, how was the quality of the instruction for the pre-calculus workshop held on March 3rd, 2022?
 - a. Excellent
 - b. Good
 - c. Fair
 - d. Poor
- 2. After the workshop, how confident are you in your ability to correctly solve the following types of problems on a timed exam or quiz?
 - I. Trigonometric Functions
 - a. Very confident
 - b. Confident
 - c. Neither
 - d. Not very confident
 - e. Not at all confident
 - II. Systems of Equations or Matrices
 - a. Very confident
 - b. Confident
 - c. Neither
 - d. Not very confident
 - e. Not at all confident
 - III. Circle Equations
 - a. Very confident
 - b. Confident
 - c. Neither
 - d. Not very confident
 - e. Not at all confident