# **Assessment: Assessment Unit Four Column**

# **Program - Mathematics**

**Mission Statement:** The Mathematics Department at Seward County Community

College will enhance a student's ability to think critically using mathematical principles, ideas and concepts in order to function in a society with ever-changing technology.

## Outcomes

# **Critical Thinking -** Demonstrate the ability to think critically by gathering facts, generating insights, and evaluating information. **Outcome Status:** Active

Outcome Status: Active
Outcome Type: Curricular
Start Date: 08/13/2010

# **Assessment Tools**

**Direct** - Student will think critically in various reflection assignments by analyzing a worked out problem to determine the mistake made, solve the problem correctly from the point of the mistake and show evidence that their solution is correct.

**Benchmark:** 70% will meet expectations or exceed expectations using the SCCC critical thinking rubric.

**Schedule:** Two assessments will be done throughout the semester in each of Intermediate Algebra and College Algebra.

# Results

Action Status: Action Plan in Progress
Result Type: Benchmark Not Met
CA: Gathers: 47%, Identifies: 56%
IA: Gathers: 57%, Identifies: 28%
BA: Gathers: 14%, Identifies: 38%
Trig: Gathers: 67%, Identifies: 100%
Calc1: Gathers: 60%, Identifies: 20%
Calc2: Gathers: 100%, Identifies: 100%

DE: Gathers: 0%, Identifies: 50% (05/13/2022)

#### Actions

Action: We need to adjust the new assessment for stats.

We will create a standardized form for adjuncts for submission of data. This will be available on the teams site and emailed to the instructors.

In late spring, we expanded CT assessments to all of our courses. Because this was done so late, most adjunct instructors couldn't be included. Next year these instructors will be trained and included. (05/13/2022)

**Follow-Up:** Gathers Information results went down 9% for CA and IA went up 7%.

Identifies Solutions went up 2% for CA and decreased 1% for IA. It appears that our adjustment to the IA assessment did increase our results for Gathers Information. It stayed about the same for Identifies Solutions.

The standardized form didn't happen this year. (05/13/2022)

Action: We need to adjust the

Action Status: Action Plan in Progress Result Type: Benchmark Not Met

Outcomes	Assessment Tools	Results	Actions
		CA Gathers Information: 56% meets CA Identifies Solutions: 54% meets IA Gathers: 50% meets IA Identifies: 29% meets (05/18/2021)	second assessment in IA to reflect more on what they should know. This may increase success rates because it should align more with what they practice.  We need better follow up with adjunct instructors because some are not submitting and set an earlier due date to submit their data. We will create a standardized form for submissions of data. This will be available on the teams site and emailed to the instructors. (05/18/2021)  Follow-Up: Gathers Information results went up 4% for CA and IA went up 1%. Identifies Solutions went up 7% for CA and decreased 17% for IA. (05/18/2021)
		Action Status: Action Plan in Progress Result Type: Benchmark Not Met Gathers Information: CA 52% met expectations, IA 49% met expectations Identifies Solutions: CA 47% met expectations, IA 46% met expectations (05/14/2020)	Action: We will continue with two assessments per course and keep focusing on the best practices for CT.  We will continue to encourage them to always check their work. (05/14/2020)  Follow-Up: Gathers Information results went up 8% for CA from last year and IA did not change. Identifies Solutions went up 9% for CA and 14% for IA from last year. (05/14/2020)
		Action Status: Action Plan in Progress Result Type: Benchmark Not Met College Algebra: Gathers Information: 44% (230/524) met expectations Identifies Solutions: 38% (200/524) met expectations Intermediate Algebra: Gathers Information: 49% (181/370) met expectations	Action: We will change the formatting to be sure that they answer all of the questions on the assessments. The reason we are doing this is to help improve our results for Identifies Solutions.

Outcomes	Assessment Tools	Results	Actions
		Identifies Solutions: 32% (118/370) met expectations (05/15/2019)	Students forget to check their answers. We will only be using two assessments per course. (05/15/2019)
			Follow-Up: We did not accomplish our actions from last year. Gathers Information results when up 2% for CA and 6% for IA. Identifies Solutions went up 11% for CA and 7% for IA. (05/15/2019)
			Action: We will change the formatting to be sure that they answer all of the questions on the assessments. The reason we are doing this is to help improve our results for Identifies Solutions. Students forget to check their answers. (05/15/2018)
			Follow-Up: We accomplished all of our actions from last year. Gathers Information results when up 5% for CA and 3% for IA. Identifies Solutions went down 22% for CA and 15% for IA. (05/15/2018)
			Action: Add in one more assessment for CA. Rework the quadratic problem for IA to make the problem less overwhelming. Rephrase question number 2 in the directions. (05/16/2017)
			<b>Follow-Up:</b> We did not implement the actions form 2015-2016. We will do this for next year. (05/16/2017)
		Action Status: Action Plan in Progress Result Type: Benchmark Not Met 5/11/2015: Intermediate Algebra: In skill set A, 39% met	Action: College Algebra scores dropped by 11% for skill set A and dropped by 16% in skill set B.

## **Actions**

expectations and 61% did not meet expectations. In skill set B, 31% met and 69% did not meet expectations. College Algebra: In skill set A, 59% met expectations and 41% did not meet expectations. In skill set B, 52% met expectations and 48% did not meet expectations.

5/11/2016: Intermediate Algebra: In skill set A, 39% met expectations and 61% did not meet expectations. In skill set B, 44% met and 56% did not meet expectations. College Algebra: In skill set A, 48% met expectations and 52% did not meet expectations. In skill set B, 36% met expectations and 64% did not meet expectations. (05/11/2016)

Intermediate Algebra scores stayed the same for skills set A and increased by 13% in skill set B.

We have determined that we need add in one more assessment for College Algebra. We also need to rework the quadratic problem in Intermediate Algebra to make the problem less overwhelming. We will also rephrase question number 2 in the directions on all the assessments. (05/11/2016)

Action: Continue to leave first CT assessment out of the data in College Algebra and Intermediate Algebra. That way we can help them with the expectations for the assignment without skewing the data.

College Algebra scores stayed the same for skill set A and increased by 7 percentage points in skill set B. Intermediate Algebra went up 16 percentage points in skill set B and went down 2 percentage points in skill set A.

We have determined that we need to norm the expectations regarding grading. We also need to get together on when we give the assessments during the semester and how we administer them. There are some inconsistencies. (05/11/2015)

**Follow-Up:** In College Algebra, we removed the quadratic formula problem due to time constraints and the group felt it wasn't

### **Actions**

measuring the concept that was intended. The lower scores could be due to giving fewer assessments in College Algebra.

In Intermediate Algebra, we rewrote the long division problem as planned. In general, our identifies solutions scores did increase. (05/11/2016)

**Action Status:** Action Plan in Progress Result Type: Benchmark Not Met

Intermediate Algebra

Gathering information: 41% of the 347 assignments

collected met expectations

Identifying possible solutions: 15% of the 347 assignments

collected met expectations

College Algebra

Gathering information: 59% of the 169 assignments

collected met expectations

Identifying possible solutions: 45% of the 169 assignments

collected met expectations (05/14/2014)

Action: 1. Rework long division and quadratic problems in Intermediate Algebra to make the problems less overwhelming to the students. Students are having difficulty with these problems in areas other than what we are trying to assess. 2. In spring 2015, we will revisit the strategy of not counting the first assessment in each course in the scoring. It appears the difficulty of the concept has more impact on scores than whether the students are comfortable with the type of assessment tool. We will look at the data again in the spring 2015 semester before making another change. (05/14/2014)

Follow-Up: College Algebra increased by ten percentage points in each category. Intermediate Algebra stayed the same in skill set 1 but dropped four percentage points in skill set 2. This may or may not be a result of taking out the first critical thinking assessment they do in class. In Intermediate Algebra,

(05/18/2021)

Outcomes	Assessment Tools	Results	Actions
		Action Status: Action Plan in Progress Result Type: Benchmark Met AA: 40% BA: 71% IA: 74% CA: 70% Overall: 70% (05/14/2020)	Action: We will continue to monitor. (05/14/2020)  Follow-Up: Overall we met the benchmark. For AA, the sample base was small. Adjusting to remote learning could have also affected the results.  CA went up 15% from last year. (05/14/2020)
		Action Status: Action Plan in Progress Result Type: Benchmark Met AA: 64% (7/11) met the 60% on Final Exams BA: 77% (54/70) met the 60% on Final Exams IA: 75% (79/105) met the 60% on Final Exams CA: 55% (74/135) met the 60% on Final Exams Overall: 67% (214/321) met the 60% on Final Exams (05/15/2019)	Action: We will continue to monitor. This is our second year doing it this way. (05/15/2019) Follow-Up: Overall we met the benchmark. We met the benchmark in half of our courses. For AA, the sample base was small and several students were unprepared for this course. (05/15/2019) Action: Continue to monitor since this is our first year doing it this way. (05/15/2018)
			Follow-Up: We decided to use the entire final exam in each course for reporting.  We met the benchmark in all courses except AA. For this course, the sample base was small and several students were unprepared for this course.  (05/15/2018)
			Action: We will discuss eliminating this from next year's program assessment and using another tool. (05/16/2017)
			<b>Follow-Up:</b> Nothing was changed this year. (05/16/2017)
		Action Status: Action Plan in Progress	Action: We may need to review

Result Type: Benchmark Not Met

05/19/2015: Advanced Arithmetic: 29% successfully completed at least 70% of the mastery items on the final

exam (10/35);

Beginning Algebra: 67% (50/75); Intermediate Algebra: 44% (42/96); College Algebra: 26% (25/97)

05/17/2016: Advanced Arithmetic: 27% (4/15);

Beginning Algebra: 67% (58/87); Intermediate Algebra: 43% (40/93);

College Algebra: 17% (12/69) (05/17/2016)

our competencies for each course and make changes as necessary. We also need to evaluate the fairness of the questions on the final exams. (05/17/2016)

**Follow-Up:** We need to follow through with what we said we would do. (05/17/2016)

Action: Faculty did discuss consistency of grading this year. We had increases in every class for mastery but only met the benchmark in Beginning Algebra. Faculty members still need to evaluate each mastery question for fairness but also mastery items need to be reexamined to determine if items need to be moved to a different class or taken out completely. (05/19/2015)

Action: The department needs to continue to work to establish consistency in grading mastery items. Faculty members also need to evaluate each mastery question to ensure fairness. College Algebra mastery items will be evaluated first, followed by other courses as time permits. We will also compare mastery results from year to year to identify trends.

(05/20/2014)

**Follow-Up:** Planned actions from last year did not take place due to

time spent on program review.

#### (05/20/2014)

**Action Status:** Action Complete **Result Type:** Benchmark Met Assessment 1 for this outcome:

We compare pretest scores for students who take sequential math courses from the fall to the spring semester. This only includes students who passed their fall math course. Our benchmark: 90% of students will improve their scores on the pretest from one semester to the next. This year 93.9% (46/49) improved their scores.

Assessment 2 for this outcome is described under assessment tool above:

This one measures mastery of key concepts on the final exams for courses starting at Advanced Arithmetic and ending with College Algebra. We are measuring what percent of students successfully complete at least 70% of the mastery items on their final exams for each course.

Advanced Arithmetic: 18.2% (4/22) Beginning Algebra: 60.0% (39/65) Intermediate Algebra: 29.2% (21/72)

College Algebra: 13.6% (11/81) (05/21/2013)

**Action:** Assessment 1 - Benchmark was met so we will continue to monitor this next year.

Assessment 2 - The action recommendations from the 2011-12 school year were not entirely implemented this year. More partial credit was given as mastery concepts were graded but this may not have been consistent for every instructor. Instructors may need a norming session at the end of each semester to assume consistency on grading. We also need to look into reevaluating how we grade problems with multiple parts or get rid of the problems with multiple parts by examining what we really want to know. Right now the whole problem is either right or wrong. This is not telling us what parts of the problem they do know. This was an action from last year that was not done. (05/21/2013)

Follow-Up: Assessment 1 - Instructors do a good job of making sure students take the pretest seriously. Students seemed to be a bit stronger in their math skills overall this year than last year (observation only). Also the implementation of the Math Resource Center may be

(05/21/2012)

Outcomes	Assessment Tools	Results	Actions
		Action Status: No Action Required Result Type: Benchmark Met 85% of the students that took the math placement test at the beginning of fall 2011 and spring 2012 semesters improved their test scores. The math placement test consists of basic skills needed for success in the three developmental math courses. This will be an ongoing measure. (05/18/2012)	
		Action Status: Action Plan in Progress Result Type: Benchmark Not Met Data not available for pre-post yet. Mastery concepts on College Algebra final: 6% of students achieved 60% mastery of the mastery college algebra concepts on the final exam. (05/23/2011)	Action: Instead of expecting perfect answers we will incorporate partial credit in reporting scores. (05/23/2011)  Follow-Up: The scores are based on perfectly correct answers which may make achieving the benchmark out of reach. We need to reevaluate how we define mastery. (05/23/2011)
	Direct - Pre-post scores from our in house pretest will be computed to determine whether a student has improved from one semester to the next.  Benchmark: 80% of our students who are successful in a math course will improve on the pre-test before the next math course.	Action Status: Action Plan in Progress Result Type: Benchmark Not Met 74% of students improved (05/13/2022)	Action: We will continue to monitor this. (05/13/2022)  Follow-Up: Benchmark was not met, but is very similar to our prepandemic score of 76% even though our sample size was half of what it was two years ago. (05/13/2022)
	Schedule: Done annually (May)	Action Status: Action Plan in Progress Result Type: Benchmark Not Met none (05/18/2021)	Action: The pretest will be given next year. (05/18/2021)  Follow-Up: Was not done due to multi-modal instruction. Due to split in-person attendance, two class periods could not be used to administer the exam. (05/18/2021)
		Action Status: Action Plan in Progress Result Type: Benchmark Not Met 58/76 students improved their scores (76%) (05/14/2020)	<b>Action:</b> The math department faculty will continue to monitor these scores. (05/14/2020)
		Action Status: Action Plan in Progress	Action: The math department

Outcomes	Assessment Tools	Results	Actions
		<b>Result Type:</b> Benchmark Met 85% (46/54) of students improved their scores from Fall-Spring. (05/15/2019)	faculty will continue to monitor these scores. (05/15/2019)
			<b>Action:</b> The math department faculty will continue to monitor these scores. (05/15/2018)
			<b>Follow-Up:</b> We are working on improving the reporting and data retrieval processes. (05/15/2018)
			Action: The math department faculty will continue to monitor these scores. (05/16/2017)
			Follow-Up: We were unable to accurately filter the data to make it comparable to previous years. We are working on improving the reporting and data retrieval processes. (05/16/2017)
		Action Status: Action Plan in Progress Result Type: Benchmark Not Met 05/06/2015: 93% (54/58) of the students improved their	Action: The math department faculty will continue to monitor these scores. (05/11/2016)
		pretest scores from fall 2014 to spring 2015.  05/11/2016: 65% (32/49) of students improved their pretest scores from spring 2015 to fall 2015. 86% (71/83) of the students improved their pretest scores from fall 2015 to spring 2016. Overall 78% (103/132) of students improved their pretest scores. (05/11/2016)	Follow-Up: We started tracking spring to fall and found that the improvement was lower. This is due to summer break, graduation, transfer, and those that took summer classes. (05/11/2016)  Action: Benchmark was met so we will continue to monitor this next year. (05/06/2015)
			<b>Action:</b> Benchmark was met so we will continue to monitor this next year. (05/15/2014)
	Indirect - Course grade in Advanced Arithmetic, Beginning Algebra, Intermediate Algebra, and College Algebra Benchmark: 70% of students who complete the course must pass with	Action Status: Action Plan in Progress Result Type: Benchmark Not Met AA: 90% BA: 80% IA: 50% CA: 87%	<b>Action:</b> We will continue to monitor.
	a C or better.	Total: 82% (05/13/2022)	We will continue to investigate

Outcomes	Assessment Tools	Results	Actions
	Schedule: End of each semester		placement into IA.
			(05/13/2022)  Follow-Up: Benchmark was met in all courses except IA.  Due to the extremely small amount of completers in IA, we are not sure what to conclude about this. (05/13/2022)
		Action Status: Action Plan in Progress Result Type: Benchmark Not Met AA 50% met BA 60% met IA 69% met CA 70% met Total 67% met (05/18/2021)	Action: We will continue to monitor.  If multi-modal learning is still expected next year, we will be more stringent in our course policies about attendance and class participation. (05/18/2021)
			Follow-Up: Benchmark was met in CA and was almost met in IA. Due to the pandemic, multi-modal learning could have been one of the causes for the decreases in all courses. Students who elected to Zoom most class sessions didn't do as well as those who attended physically. (05/18/2021)
		Action Status: Action Plan in Progress Result Type: Benchmark Met AA: 60% BA: 73% IA: 96% CA: 84% Overall: 84% (05/14/2020)	Action: Benchmark was met in CA, IA, and BA. We will continue to monitor and look for trends. (05/14/2020)  Follow-Up: AA is currently undergoing improvements, and we hope to see improvements in the next few years. (05/14/2020)
Workplace Skills - Exhibit workplace skills that includes punctuality with	<b>Direct -</b> Meets Expectations: On Time	Action Status: Action Plan in Progress Result Type: Benchmark Met	Action: We will stress the importance of meeting deadlines

Outcomes	Assessment Tools	Results	Actions
assignments.  Outcome Status: Active	Does Not Meet Expectations: Late, or not submitted  Benchmark: 66.7% of students will meet expectations  Schedule: Measured 2 times in Statistics and 1 time in Calculus I throughout the semester	Stats Spring: 83% Calc1 Fall: 100% Calc1 Spring: 75% Total: 88% (05/13/2022)	next year. We will continue to monitor this. (05/13/2022) Follow-Up: Benchmark was met. Overall, we increased by 14% from the previous year. This was only assessed 1 time in Stats this year. (05/13/2022)
		Action Status: Action Plan in Progress Result Type: Benchmark Met Stats Fall: 100% met Stats Spring: 62.5% met Calc1 Fall: 87.5% met Calc1 Spring: 100% met Total: 74.07% (05/18/2021)	Action: We will stress the importance of meeting deadlines next year.  We will continue to monitor this. (05/18/2021)  Follow-Up: Benchmark was not met in Stats for the spring semester, but was met for the fall semester. Benchmark was met in Calc1.  Overall, we increased by 17.5% from the previous year. (05/18/2021)
		Action Status: Action Plan in Progress Result Type: Benchmark Not Met Stats F19: 38% Stats S20: 78% Calc1 F19: 83% Overall: 57% (05/14/2020)	Action: We will stress the importance of meeting deadlines next year.  This is the first year we have assessed this outcome. Thus, we have nothing to compare this data. We will continue to monitor this. (05/14/2020)  Follow-Up: Benchmark was not met in Stats for the fall semester, but was met for the spring semester. Benchmark was met in Calc1.  In the spring semester, deadlines were extended due to remote learning. (05/14/2020)
Communicate in writing -	Direct - The SCCC writing rubric will	Action Status: Action Plan in Progress	Action: Need to emphasize

09/09/2022

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Outcomes	Assessment Tools	Results	Actions
Communicate ideas clearly and proficiently in writing, appropriately adjusting content and arrangement for varying audiences, purposes, and situations.  Outcome Status: Active	be used to assess a writing project in Calculus I and Statistics.  Benchmark: 66.7% will meet or exceed expectations using the SCCC writing rubric  Schedule: Near the end of each semester	Result Type: Benchmark Not Met Structure: 82% Correctness: 76% Content: 59% Total: 73% (05/13/2022)	content in the instructions so that students will provide more detail. Students will be provided the writing rubric so they know how they will be scored.  We will continue to monitor this. (05/13/2022)  Follow-Up: Overall, we met the benchmark in all categories except Content. Content was lower due to only partially developed details. (05/13/2022)
		Action Status: Action Plan in Progress Result Type: Benchmark Met Structure: 90.48% met Correctness: 90.48% met Content: 66.67% met Total: 82.54% met (05/18/2021)	Action: Continue to emphasize structure in the instructions. Students will be provided the writing rubric so they know how they will be scored. We will continue to monitor this. (05/18/2021)
			Follow-Up: Overall, we met the benchmark. Content was lower due to only partially developed details.  We emphasized structure and saw a 25% increase this year. Students were provided the expectations for structure, correctness, and content. (05/18/2021)
		Action Status: Action Plan in Progress Result Type: Benchmark Met Structure: 65% Correctness: 90% Content: 70% Overall: 75% (05/14/2020)	Action: Emphasize structure in the instructions. Students will be provided the writing rubric so they know how they will be scored.  This is the first year we have assessed this outcome. Thus, we have nothing to compare this data. We will continue to monitor this. (05/14/2020)
			Follow-Up: Overall, we met the

not always provide an introduction and conclusion in their writing. (05/14/2020)