Eastern West Virginia Community and Technical College
COURSE ASSESSMENT REPORT

Course Title and Number: MTH 135S – College Algebra Support	**Academic Term and Year of Assessment Activity (Ex: Fall, 2014)** Fall 2018 and Spring 2019
Report Submitted By: Andrea Williams	**Number of Students Assessed:** 6
Date Report Submitted: 5/31/19	**Number of Sections Included:** 2
Course Delivery Format (list all modalities used in sections assessed. Ex: web based, VDL, traditional section, hybrid course, etc.): Traditional section	

Course Role in the Curriculum

Provide a description of the role the course serves in the curriculum (i.e. general education requirement, program technical core, restricted elective, etc.). Note all as appropriate.

This course serves as the co-requisite developmental math course for MTH 135. The course provides targeted support to help students enhance their understanding and learning of MTH 135 material. It is required for students with math ACT score less than 19; SAT math score less than 500; or ACCUPLACER Elementary Algebra score of less than 76.

Previous Assessment Reports and Results

Date of Previous Assessment: N/A
List of Outcomes Not Met: See below
Summary of Actions Taken to Address Unmet Learning Outcomes: Append additional pages if necessary. If appending, include notation in box to "See attached".

Assessment Methods

Provide a description of the assessment process used. Include description of instrument and performance standards in description. Note all methods.

The written homework, MyMathLab assignments, and unit tests are used as a basis for this assessment. Each assignment corresponds to one or more of the course's eight outcomes (see Attachment 1). Each student was assigned a score for each outcome based on his or her performance on the corresponding assignments, with the weight of each assignment factored into the calculation (written homework 15%, labs 15%, tests 40%). The minimum satisfactory performance for each outcome is 75% of the students meeting that outcome with a score of 75%. The Fall 2018 and Spring 2019 cohorts were combined to increase the sample size.

Course Level Assessment Summary of Outcomes, Indicators and Results
Add additional rows to table if necessary

Learning Outcomes	Indicator	Percent of	Performance

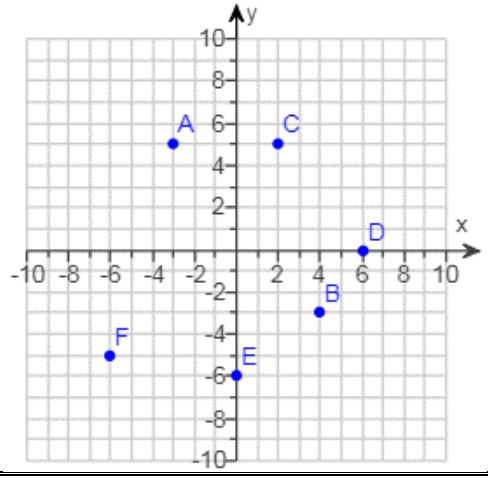
<table>
<tr><th>(Insert learning outcomes assessed during this cycle)</th><th>(Insert indicators used for each outcome: exam question, scoring rubric, etc. Be specific)</th><th>Correct Responses</th><th>Standard Met (75%)* (yes or no)</th></tr>
<tr><td>Outcome 1: Perform operations with real numbers</td><td>Sample Questions:

Simplify: $\frac{|3-7|\cdot 3}{\sqrt{49}-3}$.

Graph and label the numbers on the number line: $\pi, 2.4, -\frac{1}{5}, -\sqrt{6}$.</td><td>83%</td><td>Yes</td></tr>
<tr><td>Outcome 2: Solve linear equations and inequalities</td><td>Sample Questions:

Solve the equation $7x + 9 = 6x + 8$.

Solve for x: $y = 3(x - 2) + x$.</td><td>83%</td><td>Yes</td></tr>
<tr><td>Outcome 3: Graph using the coordinate plane</td><td>Sample Questions:

Plot and label the given ordered pairs in the xy-plane. Then give the quadrant or axis where each point is located.
<table>
<tr><th>Point</th><th>Coordinates</th><th>Quadrant or Axis</th></tr>
<tr><td>A</td><td>(0,5)</td><td></td></tr>
<tr><td>B</td><td>(5,-2)</td><td></td></tr>
<tr><td>C</td><td>(-5,-6)</td><td></td></tr>
</table>
Give the coordinates of the points in the following graph:
 
</td><td>83%</td><td>Yes</td></tr>
<tr><td>Outcome 4: Solve systems of equations</td><td>Sample Questions:

Solve the following system of equations by graphing: $\begin{cases} 2x - y = 2 \\ -5x + y = 4 \end{cases}$.

Solve the following system of equations by substitution or elimination:</td><td>67%</td><td>No</td></tr>
</table>

	$\begin{cases} 5x + y = -4 \\ 7x - 3y = -32 \end{cases}$		

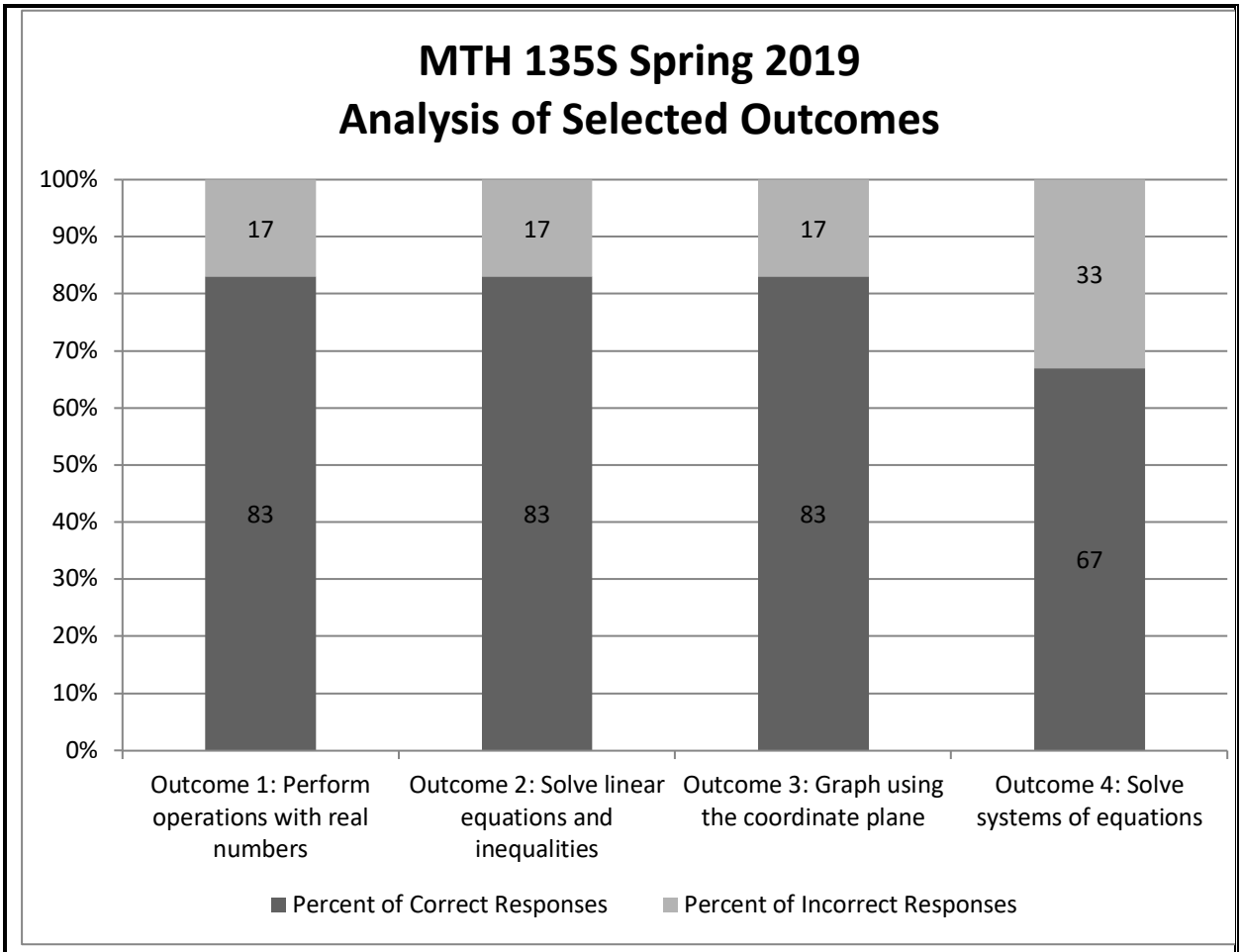
* Please note if using a different minimum performance standard.

Assessment Results

Provide a summary of results including tables/charts. Incorporate information from previous assessments as appropriate. Append additional pages if necessary. If appending, include notation in box to "See attached".

Since this is the first time this course has been assessed, the first four outcomes were chosen for assessment. Three of the four met the 75% performance standard. See Attachment 2 for results separated by assignment type.

Learning Outcome	Total Number of Students	# of Students 75% or above	# of Students below 75%	% Meeting Outcome
Outcome 1: Perform operations with real numbers	6	5	1	83
Outcome 2: Solve linear equations and inequalities	6	5	1	83
Outcome 3: Graph using the coordinate plane	6	5	1	83
Outcome 4: Solve systems of equations	6	4	2	67



The two sections combined had a 75% completion rate and an 83% pass rate for those who finished the course. These students also had a 75% completion rate and an 83% pass rate for MTH 135.

Conclusion

Provide a brief summary of conclusions derived based on analysis of data. Append additional pages if necessary. If appending, include notation in box to "See attached".

As the first two groups of students to take College Algebra as a co-requisite, the students had no significant problems with the support course. The outcomes covered proved to be simple but relevant to understanding the college-level material, and the amount of support material left ample class time for the students to work on and get help with the college-level material. Outcome 4, solving systems of equations, proved to be the most challenging for the students. This is most likely due to the fact that this outcome is the last to be covered in the course at which point the students have too many other end-of-the-semester demands to put the time into these assignments as they normally would.

Since the primary purpose of the course is to help students succeed in MTH 135, of equal importance is how they performed in MTH 135. Comparing all MTH 135 students from both semesters, it seems having MTH 103 as a prerequisite was a better indicator of success for the fall cohort (the mean MTH 135 grade of the MTH 103 students was 74.5% while the mean grade of the support students was

59.7%), but the support students did significantly better in the spring section (a mean MTH 135 grade of 86.1% for the support students versus 64.5% for the MTH 103 student). When they encountered a review topic in the college-level course, they solved it more quickly and with more confidence than the MTH 103 student because they had seen it more recently in the support course.

Action Plan and Date for Reassessment

Identify action plan for improvement or maintaining current performance levels including outcomes identified for re-assessment, curriculum revision, LOT proposal, new or revised course activities to reinforce learning outcomes, etc. Append additional pages if necessary. If appending, include notation in box to "See attached".

Since three of the four assessed outcomes were at or above the 75% performance standard, no adjustments to instructional methods, materials, or outcomes are recommended at this time. If possible, an extra day will be allotted in the course schedule for the last unit to improve performance on Outcome 4. The success of the support students in the college-level course will continue to be closely monitored to assess the effectiveness of the support course, and outcomes can be revised or added if necessary.

Date for reassessment: Spring 2021

Assessment Committee Recommendation/Approval
(To be posted by Assessment Committee Chair)

x Approved as presented
□ Approved with recommendations for future reports (Explanation Required)
□ Resubmission Required. Reason for Resubmission:

Date: 9/13/19

Attachment 1 – MTH 135S Coverage of Outcomes

												Labs (15%)									
Outcome	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	Rev	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	Rev
1	✓	✓	✓		✓	✓					✓		✓			✓	✓	✓		✓	✓
2							✓	✓	✓		✓										
3				✓							✓										
4																					
5																					
6												✓	✓	✓	✓	✓			✓		✓
7																					
8										✓	✓										

Outcome	3.1	3.2	3.3	3.4	Rev	4.1	4.2	4.3	4.4	4.5	Rev	5.1	5.2	5.3	5.4	Rev
1						✓			✓		✓					
2			✓		✓			✓			✓					
3	✓				✓											
4												✓	✓	✓		✓
5										✓	✓					
6		✓		✓	✓		✓				✓					
7															✓	✓
8																

	Written Homework (15%)					Tests (40%)				
Outcome	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
1	✓	✓		✓		✓	✓		✓	
2	✓		✓	✓		✓		✓	✓	
3	✓		✓			✓		✓		
4					✓					✓
5				✓					✓	
6		✓	✓	✓			✓	✓	✓	
7					✓					✓
8	✓					✓				

Attachment 2 – Results Separated by Assignment Type