Eastern West Virginia Community and Technical College
COURSE ASSESSMENT REPORT

Course Title and Number: MTH 121 College Math for General Education	**Academic Term and Year of Assessment Activity (Ex: Fall, 2014)** Fall 2018 and Spring 2019
Report Submitted By: Andrea Williams	**Number of Students Assessed:** 31
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.

MTH 121 is a college-level general education elective. It serves as the mathematics requirement for most certificate and Associate of Applied Science students who need no further math for their program of study. The prerequisites for the course are Math ACT score 19 or higher; SAT math score 500 or higher; or ACCUPLACER Arithmetic score of 85 or higher. Students not meeting the prerequisites are required to take MTH 121S College Math Support as a co-requisite to MTH 121.

Previous Assessment Reports and Results

Date of Previous Assessment: Spring 2017
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".

Outcomes not met on the previous assessment include

- apply algebraic techniques to solve linear and quadratic equations, graph linear equations, and solve application problems
- solve problems related to consumer math
- determine the probability of an event

As discussed in the previous assessment, more review time has been dedicated to these problem areas. The questions that prove to be the most difficult for the students are specifically addressed during the in-class final exam review.

Assessment Methods

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

The MyMathLab assignments and unit tests are used as a basis for this assessment. Each assignment corresponds to one or more of the course's seven 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 (labs 15%, tests 35%). 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 (Insert learning outcomes assessed during this cycle)	**Indicator (Insert indicators used for each outcome: exam question, scoring rubric, etc. Be specific)**	**Percent of Correct Responses**	**Performance Standard Met (75%)* (yes or no)**
Outcome 1: Apply algebraic techniques to solve linear and quadratic equations, graph linear equations, and solve application problems	Sample Questions: Write an equation to represent the following statement. Then solve the equation. Ten less than three times a number is 23. Graph the equation $2x + y = 6$.	65%	No
Outcome 2: Solve problems related to consumer math	Sample Questions: Find the simple interest earned on \$1650 at a rate of $5\frac{1}{2}\%$ over 9 months. The Adeevas are applying for a 20-year, \$87,000 mortgage at 7.0%. Determine their monthly mortgage payment of principal and interest.	23%	No
Outcome 3: Determine the probability of an event	Sample Questions: Of the last 60 people who went to the cash register at a department store, 16 had blond hair, 18 had black hair, 21 had brown hair, and 5 had red hair. Determine the empirical probability that the next person to come to the cash register has black hair. Consider a collection of envelopes consisting of 1 red envelope, 3 blue envelopes, 1 green envelope, and 2 yellow envelopes. If two envelopes are selected at random, *without*	45%	No

	replacement, determine the probability that both are yellow envelopes.		
Outcome 4: Analyze a set of data using statistical techniques	Sample Questions: Find the median of the set of data 7, 9, 22, 9, 13, 9, 21, 15. Round to the nearest tenth if necessary. Assume that the speed of automobiles on an expressway during rush hour is normally distributed with a mean of 64 mph and a standard deviation of 5 mph. What percent of cars are traveling faster than 71 mph?	84%	Yes

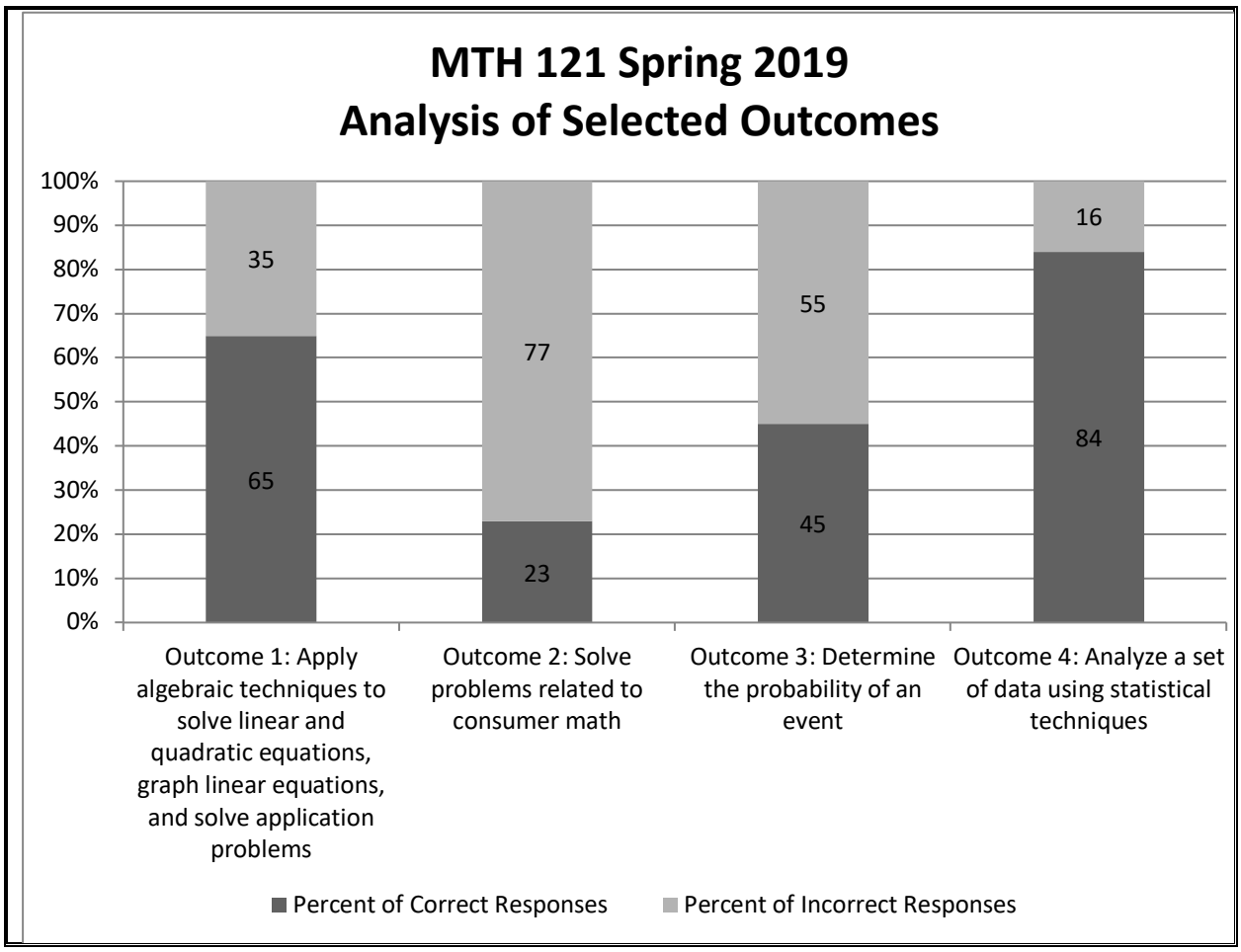
* Please note if using a different minimum performance standard.

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".

The three outcomes not met on the Spring 2017 assessment were reassessed along with one new outcome that has not been assessed recently. Direct comparison of results of this assessment with the previous assessment is not applicable because a different technique was used for determining the performance percentage for each outcome. Results from assignments and assessments throughout the semester were included rather than just the final exam.

Learning Outcome	Total Number of Students	# of Students 75% or above	# of Students below 75%	% Meeting Outcome
Outcome 1: Apply algebraic techniques to solve linear and quadratic equations, graph linear equations, and application problems	31	20	11	65
Outcome 2: Solve problems related to consumer math	31	7	24	23
Outcome 3: Determine the probability of an event	31	14	17	45
Outcome 4: Analyze a set of data using statistical techniques	31	26	5	84



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 noted above, direct comparison between results of Spring 2017 and Spring 2019 cannot be made; however, the unit on consumer math continues to be the most challenging for the students. The outcome related to algebra is not far from meeting the standard, but probability is still an area of concern. Suggestions for improvement are given below in the Action Plan.

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".**
The biggest concern, particularly with the spring cohort, was homework completion. As Attachment 2 shows, while homework performance was adequate, there is undoubtedly room for improvement, and

improved performance on homework would most likely result in improved test grades. For this reason, the students need more motivation and accountability for completing the homework at a higher quality. Some possibilities are to set stricter deadlines for completing the homework, to offer an incentive (i.e. bonus points) for students who complete homework in advance of the deadline, and to make homework a higher percentage of the final grade. The suggestion has also been discussed among math faculty of requiring a minimum score on the review assignment before a student can test, but more thought will have to be given to logistics before implementation of this policy. While moving from open-note tests to closed-note tests for the unit on consumer math seemed to yield improvement initially, it may be time to revisit open-note tests, group tests, or even an entirely different form of assessment for that unit such as a project.

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 121 Coverage of Outcomes

																			Labs (15%)	
Outcome	1.1	1.2	1.3	6.1	6.2	6.3	6.4	6.6	6.9	Rev	7.1	7.2	7.3	7.4	8.1	8.2	8.3	8.4	Rev	10.1	10.2
1	✓	✓	✓							✓											
2				✓	✓	✓	✓	✓	✓	✓											
3											✓	✓	✓	✓					✓		
4															✓	✓	✓	✓	✓		
5																				✓	✓
6																					
7																					

Outcome	10.3	10.4a	10.4b	10.5	Rev	11.1	11.2	11.3	11.4	11.5	11.6	Rev	12.1	12.2	12.3	12.4	12.5	Rev
1																		
2																		
3																		
4																		
5	✓	✓	✓	✓	✓													
6						✓	✓	✓	✓	✓	✓	✓						
7													✓	✓	✓	✓	✓	✓

	Tests (35%)					
Outcome	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Review
1	✓					✓
2	✓					✓
3		✓				✓
4		✓				✓
5			✓			✓
6				✓		✓
7					✓	✓

Attachment 2 – Results Separated by Assignment Type