Program Assessment

2021-2022

Math

Math & Physical Science – Math Option	
Date	**5/23/2022**
Competency # and Description	1. Sketch or identify and interpret graphs
Course	MATH 2144 – Calculus I MATH 2154 – Calculus II
Activity	MATH 2144 – Discuss the continuity of a given function at a point and on an interval MATH 2154 – Use polar graphs to label graphs of equations, determine angle of intersection, shade, and set up integrals to find the area.
Measurement (attached copy of instrument with point distribution)	MATH 1613 - Common question assessed on quiz MATH 2144 - Common question assessed on quiz MATH 2154 - Common question assessed on quiz
Evaluation Criteria	MATH 1613 - Students will earn 70% or better on quiz MATH 2144 - Students will earn 70% or better on quiz MATH 2154 - Students will earn 70% or better on quiz
Fall 2021/Spring 2022 Results	MATH 2144 – 30/43 (69.8%) of students met competency MATH 2154 – 29/32 (90.6%) of students met competency
Interpretation of Results for Fall 2021/Spring 2022	MATH 2144 – Students barely met the competency. MATH 2154 – Students are excelling at the competency.
Reflection of Results for Fall 2021/Spring 2022	MATH 2144 – Want to adjust for integrity concerns during COVID. Look at making sure students know how to graph in addition to interpreting. MATH 2154 – Make changes to adjust for integrity concerns.
Actions for Fall 2022 Based on Results	MATH 2144: Instead of giving the students the graph to analyze, they now have to draw the graph based on certain criteria and then discuss it. This is a little more open ended and challenging. MATH 2154 – Students will determine aspects of a graph and then graph the equation.
Timeline for Review	Fall data will be collected and reviewed in the spring and instructors from all campuses will determine needed adjustments.
Past Data and Actions	
2015-2016 Results	MATH 1613 – 75/94 (79.79%) of students met competency MATH 2145 – 17/22 (77.27%) of student met competency MATH 2155 – 12/18 (66.67%) of students met competency MATH 1613 – 70/94 (74.47%) of students met competency MATH 2145 – 39/46 (84.78%) of students met competency MATH 2155 – 14/20 (70.00%) of students met competency
2016-2017 Results	MATH 1613 – 39/49 (79.59%) of students met competency MATH 2145 – 9/9 (100%) of students met competency MATH 2155 – 27/35 (77.14%) of students met competency MATH 1613 – MATH 2145 – 27/35 (77.14%) of students met competency MATH 2155 – 6/7 (85.71%) of students met competency

2017-2018 Results	MATH 1613 – 19/26 (73.08%) of students met competency MATH 2145 - MATH 2155 – 14/19 (73.68%) of students met competency MATH 1613 – MATH 2145 – 10/12 (83.3%) of students met competency MATH 2155 – 11/13 (84.62%) of students met competency
2018-2019 Results	MATH 2145 – 11/16 (68.75%) of students met competency MATH 2155 – 11/16 (68.75%) of students met competency MATH 2145 – 18/27 (66.67%) of students met competency MATH 2155 – 3/6 (50%) of students met competency
2019-2020 Results	MATH 2145 – 18/23 (78.26%) of students met competency – both semesters combined**spring COVID-19 MATH 2155 – 11/20 (55%) of students met competency – both semesters combined**spring COVID-19
2020-2021 Results	MATH 2144 – 27/39 (69.2%) of students met competency – both semesters MATH 2154 – 11/15 (73.3%) of students met competency – both semesters
Summary of changes for 2018-2019	MATH 1613 – We are removing the sketch, identify/graph problem. The topic is assessed on chapter tests and previous assessments have had high results. We feel it is more important to address critical thinking/application problems. MATH 2145 – no changes MATH 2155 – no changes
Recommendation for changes for 2019-2020	MATH 1613 – We are removing the sketch, identify/graph problem. The topic is assessed on chapter tests and previous assessments have had high results. We feel it is more important to address critical thinking/application problems. MATH 2145 – no changes MATH 2155 – no changes
Recommendation for changes for 2020-2021	Due to the splitting of the calc courses – we will shift where the certain assessments are given. With the shift to online after spring break some assessments weren't given.
Recommendation for changes for 2021-2022	With the mix of students in person and online live – not sure how accurate results were for the assessments (in particular those in an o-live situation). Will start looking at how assessment results break down between the different modes of instruction (in person, online, and o-live). First full year of the 3 calc sequence courses. Calc I has new instructor could be reason for drop in success. Will see how rates change with more experience to clear up confusion. Assessment results for Calc III were much higher – maybe splitting the courses up helped to allow time for understanding the material.
Date	**5/23/2022**
Competency # and Description	2. Manipulate, simplify and/or solve expressions or equations
Course	MATH 1613 - Trigonometry MATH 2154 – Calculus II MATH 2164 – Calculus III MATH 2613 – Differential Equations
Activity	MATH 1613 – Verify each identity justifying each step MATH 2154 – Evaluate and apply double and triple integrals in rectangular and polar coordinates MATH 2164 – Find the second derivative, slope of the tangent line and the y direction of a point of a function MATH 2613 – Solve various type of equations including Laplace transforms and determining if an equation is exact.
Measurement (attached copy of instrument with point distribution)	MATH 1613 - Common questions assessed on a quiz MATH 2154 - Common questions assessed on a quiz MATH 2164 - Common questions assessed on a quiz MATH 2613 - Common questions assessed on a quiz

Evaluation Criteria	MATH 1613 - Students will earn 70% or better on the quiz MATH 2154 - Students will earn 70% or better on the quiz MATH 2164 - Students will earn 70% or better on the quiz MATH 2613 - Students will earn 70% or better on the quiz
Fall 2021/Spring 2022 Results	MATH 1613 – 30/41 (73.2%) of students met competency MATH 2154 – 30/32 (93.8%) of students met competency MATH 2164 – 14/14 (100%) of students met competency MATH 2613 – 13/14 (92.9%) of students met competency
Interpretation of Results for Fall 2021/Spring 2022	MATH 1613 – Students are barely meeting competency, slight increase over previous year. MATH 2154 – Students are excelling with this competency MATH 2164: Students are excelling on the current quiz.
Reflection of Results for Fall 2021/Spring 2022	MATH 1613 – Work to help student better understand how to use identities and prove MATH 2154 – Look at making changes due to integrity concerns. MATH2164: Keep first and second partial derivatives along with assessing at a given point. The example values need to be changed for problem integrity. Problems may have been compromised during Covid and O-live classes.
Actions for Fall 2022 Based on Results	MATH 1613 – Keep questions as they are and see if more progress can be made. MATH 2154 – Change the integrals to evaluate to see if the students can work through different versions. MATH 2164: Change the directions so students now have to explain the purpose of first and second partial derivatives and what they are assessing when they calculate the derivatives at a given point
Timeline for Review	Fall data will be collected and reviewed in the spring and instructors from all campuses will determine needed adjustments.
Past Data and Actions	
2015-2016 Results	MATH 1613 – 68/92 (73.91%) of students met competency MATH 2145 – 18/22 (81.82%) of students met competency 15/22 (68.18%) of students met competency MATH 2155 – 17/19 (89.47%) of students met competency MATH 2613 – 12/12 (100%) of students met competency MATH 1613 – 67/91 (73.63%) of students met competency MATH 2145 – 37/47 (78.72%) 33/43 (76.74%) of students met competency MATH 2155 – 19/20 (95%) of students met competency MATH 2613 – 13/19 (68.2%) and 11/19 (57.89%)
2016-2017 Results	MATH 1613 – 20/30 (66.67%) of students met competency MATH 2145 – 7/9 (77.78%) of students met competency MATH 2155 – 30/35 (85.71%) of students met competency MATH 2613 – N/A MATH 1613 – N/A MATH 2145 – 6/7 (85.71%) of students met competency MATH 2155 – 24/35 (68.75%) of students met competency MATH 2613 – 21/28 (75%) of students met competency
2017-2018 Results	MATH 1613 – 19/26 (73.08%) of students met competency MATH 2145 – 17/19 (89.47%) of students met competency MATH 2155 – 15/29 (51.72%) of students met competency MATH 2613 – N/A MATH 1613 - 9/14 (64.29%) of students met competency MATH 2145 – 20/27 (74.07%) of students met competency MATH 2155 – 7/13 (53.85%) of students met competency MATH2613 – 14/18 (77.7%) of students met competency
2018-2019 Results	MATH 1613 – 12/25 (48%) of students met competency MATH 2145 – 8/16 (50%) of students met competency MATH 2155 – 15/16 (93.75%) of students met competency

	MATH 1613 MATH 2145 – 20/27 (74.07%) of students met competency MATH 2155 – 5/6 (83.33%) of students met competency MATH 2613 – 42/60 (70%) of students met competency
2019-2020 Results	MATH 1613 – 43/54 (79.62%) of students met competency – both semesters combined**spring COVID-19 MATH2145 – 12/15 (80%) of students met competency – both semesters combined**spring COVID-19 MATH 2155 – 25/30 (83.33%) of students met competency – both semesters combined**spring COVID-19 MATH 2613 – no data spring COVID-19
2020-2021 Results	MATH 1613 – 41/59 (69.5%) of students met competency – both semesters combined MATH 2154 – 22/35 (62.9%) of students met competency – both semesters combined MATH 2164 – 9.9 (100%) of students met competency MATH 2613 – 11/12 (91.7%) of students met competency
Summary of changes for 2018-2019	MATH 1613 – Questions to be adjusted for more application and critical thinking MATH 2145 – no changes MATH 2155 – no changes MATH 2613 – no changes
Recommendation for changes for 2019-2020	1613 – no changes – want to run through another year to gather data and see how question adjustments made an impact or not. Other courses – no changes. Need to focus more in class on content trouble areas. Possibly adjust benchmarks if continue to meet.
Recommendation for changes for 2020-2021	With the splitting of the calc courses – some questions were shifted between courses. Some assessments may not have been administered in spring after the shift to online.
Recommendation for changes for 2021-2022	With the mix of students in person and online live – not sure how accurate results were for the assessments (in particular those in an o-live situation). Will start looking at how assessment results break down between the different modes of instruction (in person, online, and o-live). First full year of the 3 calc sequence courses. What changed from Calc I in previous sequence is now in Calc II – new instructor could be reason for drop in success. Will see how rates change with more experience to clear up confusion. Assessment results for Calc III were much higher – maybe splitting the courses up helped to allow time for understanding the material. Trig feels assessments are where they need to be – almost met the criteria.
Date	**5/23/2022**
Competency # and Description	3. Solve and interpret real world application problems
Course	MATH 1613 - Trigonometry MATH 2164 – Calculus III
Activity	MATH 1613 – Word problems involving trig functions MATH 2164 – Word problems involving vectors.
Measurement (attached copy of instrument with point distribution)	MATH 1613 - Common questions assessed on a quiz MATH 2164 - Common questions assessed on a quiz
Evaluation Criteria	MATH 1613 - Students will earn 70% or better on the quiz MATH 2164 - Students will earn 70% or better on the quiz
Fall 2021/Spring 2022 Results	MATH 1613 – 27/38 (71.1%) of students met competency MATH 2164 – 12/14 (85.7%) of students met competency
Interpretation of Results for Fall 2021/Spring 2022	MATH 1613 – Students are barely meeting competency, slight increase over previous year. MATH 2164: Students are meeting the benchmark.
Reflection of Results for Fall 2021/Spring 2022	MATH 1613 – Spend time in class pulling information from the problems and how to use them to solve the problem.

	MATH2164: The problem needs to be changed for integrity. Problems may have been compromised during Covid and O-live classes.
Actions for Fall 2022 Based on Results	MATH 1613 – Keep questions as they are and see if more progress can be made. MATH 2164: Still use a problem with projectile motion, but change the occupation from sports to farming.
Timeline for Review	Fall data will be collected and reviewed in the spring and instructors from all campuses will determine needed adjustments.
Past Data and Actions	
2015-2016 Results	MATH 1613 – 72/87 (82.73%) MATH 2155 – 17/19 (89.47%) MATH 1613 – 74/89 (83.15%) MATH 2155 – 16/20 (80.00%)
2016-2017 Results	MATH 1613 – 39/48 (81.25%) of students met competency MATH 2155 – 31/35 (88.57%) of students met competency MATH 1613 – N/A MATH 2155 – 4/7 (57.14%) of students met competency
2017-2018 Results	MATH 1613 – 37/61 (60.66%) of students met competency MATH 2155 – 10/19 (52.63%) of students met competency MATH 1613 –30/52 (57.69%) of students met competency MATH 2155 6/13 (46.15%) of students met competency
2018-2019 Results	MATH 1613 – 39/54 (72.22%) of students met competency MATH 2155 – 14/16 (87.5%) of students met competency MATH 1613 – 29/40 (72.5%) of students met competency MATH 2155 – 4/6 (66.67%) of students met competency
2019-2020 Results	MATH 1613 – 39/54 (72.22%) of students met competency – both semesters combined**spring COVID-19 MATH 2155 – 25/29 (86.2%) of students met competency – both semesters combined**spring COVID-19
2020-2021 Results	MATH 1613 – 40/58 (69%) of students met competency – both semesters combined MATH 2164 – 9/9 (100%) of students met competency
Summary of changes for 2018-2019	For 1613 reworded problem to make more sense for students. Question was confusing in the description.
Recommendation for changes for 2019-2020	1613 – run another year to see how rewording makes a difference in success 2155 – not always meeting benchmark – need to emphasize more in class and see what is different from fall to spring. Continue to focus on how to analyze word problems.
Recommendation for changes for 2020-2021	With the split of calc – some questions will be shifted to between courses. Some assessments may not have been given in spring when shifted to online.
Recommendation for changes for 2021-2022	With the mix of students in person and online live – not sure how accurate results were for the assessments (in particular those in an o-live situation). Will start looking at how assessment results break down between the different modes of instruction (in person, online, and o-live). First full year of the 3 calc sequence courses. Assessment results for Calc III were higher – maybe splitting the courses up helped to allow time for understanding the material. Trig feels assessments are where they need to be – almost met the criteria set.
Chem/Phys & Pre-Engineering Option	
Date	**5/23/2022**
Competency # and Description	4. Use and apply physical data to solve problems

Course	MATH 2144 – Calculus I MATH 2164 – Calculus III
Activity	MATH 2144 – Word problems involving derivations MATH 2164 – Word problems involving vectors.
Measurement (attached copy of instrument with point distribution)	MATH 2144 - Common questions assessed on a quiz MATH 2164 - Common questions assessed on a quiz
Evaluation Criteria	MATH 2144 - Students will earn 70% or better on the quiz MATH 2164 - Students will earn 70% or better on the quiz
Fall 2021/Spring 2022 Results	MATH 2144 – 26/39 (66.7%) of students met competency MATH 2164 – 12/14 (85.7%) of students met competency
Interpretation of Results for Fall 2021/Spring 2022	MATH 2144 – Students are not quite meeting competency. Had a new instructor for part of the students. MATH 2164: Students are meeting the benchmark.
Reflection of Results for Fall 2021/Spring 2022	MATH 2144 – Consider changing due to concerns about integrity with the question during COVID. MATH2164: The problem needs to be changed for integrity. Problems may have been compromised during Covid and O-live classes.
Actions for Fall 2022 Based on Results	MATH 2144 - Changed the wording and givens of the problem to show more real world reasoning as to why this type of problem might be necessary. MATH 2164: Still use a problem with projectile motion, but change the occupation from sports to farming.
Timeline for Review	Fall data will be collected and reviewed in the spring and instructors from all campuses will determine needed adjustments.
Past Data and Actions	
2015-2016 Results	N/A
2016-2017 Result	MATH 2145 – 7/7 (100%) of students met competency MATH 2155 – 31/35 (88.57%) of students met competency MATH 2145 – 26/35 (74.28%) of students met competency MATH 2155 – 4/7 (57.14%) of students met competency
2017-2018 Results	MATH 2145 – 14/19 (73.68%) of students met competency MATH 2155 – 6/12 (50%) of students met competency MATH 2145 – 9/12 (75%) of students met competency MATH 2155 – 6/13 (46.15%) of students met competency
2018-2019 Results	MATH 2145 – 8/16 (50%) of students met competency MATH 2155– 14/16 (87.5%) of students met competency MATH 2145 – 18/27 (66.67%) of students met competency MATH 2155 – 4/6 (66.67%) of students met competency
2019-2020 Results	MATH 2145 – 17/23 (73.91%) of students met competency – both semesters combined**spring COVID-19
2020-2021 Results	MATH 2154 – 25/42 (59.5%) of students met competency – both semesters
Summary of changes for 2018-2019	Incorporate more application problems (physics in particular) in the class lecture and homework problems. Students seem to understand concepts, but lack ability to apply those concepts.
Recommendation for changes for 2019-2020	Not always meeting benchmark – need to emphasize more in class. Continue to focus on how to analyze word problems.

Recommendation for changes for 2020-2021	With the split of the calc courses – some questions were shifted between courses. Some assessments may not have been given after the shift to online in the spring.
Recommendation for changes for 2021-2022	With the mix of students in person and online live – not sure how accurate results were for the assessments (in particular those in an o-live situation). Will start looking at how assessment results break down between the different modes of instruction (in person, online, and o-live). First full year of the 3 calc sequence courses. Calc I – new instructor could be reason for drop in success. Will see how rates change with more experience to clear up confusion. Assessment results for Calc III were much higher – maybe splitting the courses up helped to allow time for understanding the material.
	Chem/Phys & Pre-Engineering Option
Date	**5/23/2022**
Competency # and Description	5. Use logical reasoning to solve problems
Course	MATH 2144 – Calculus I MATH 2164 – Calculus III
Activity	MATH 2144 – Word problems involving derivations MATH 2164 – Word problems involving vectors.
Measurement (attached copy of instrument with point distribution)	MATH 2144 - Common questions assessed on a quiz MATH 2164 - Common questions assessed on a quiz
Evaluation Criteria	MATH 2144 - Students will earn 70% or better on the quiz MATH 2164 - Students will earn 70% or better on the quiz
2015-2016 Results	N/A
Fall 2021/Spring 2022 Results	MATH 2144 – 26/39 (66.7%) of students met competency MATH 2164 – 12/14 (85.7%) of students met competency
Interpretation of Results for Fall 2021/Spring 2022	MATH 2144 – Students are not quite meeting competency. Had a new instructor for part of the students. MATH 2164: Students are meeting the benchmark.
Reflection of Results for Fall 2021/Spring 2022	MATH 2144 – Consider changing due to concerns about integrity with the question during COVID. MATH2164: The problem needs to be changed for integrity. Problems may have been compromised during Covid and O-live classes.
Actions for Fall 2022 Based on Results	MATH 2144 - Changed the wording and givens of the problem to show more real world reasoning as to why this type of problem might be necessary. MATH 2164: Still use a problem with projectile motion, but change the occupation from sports to farming.
Timeline for Review	Fall data will be collected and reviewed in the spring and instructors from all campuses will determine needed adjustments.
Past Data and Actions	
2016-2017 Results	MATH 2145 – 7/7 (100%) of students met competency MATH 2155 – 31/35 (88.57%) of students met competency MATH 2145 – 26/35 (74.28%) of students met competency MATH 2155 – 4/7 (57.14%) of students met competency

2017-2018 Results	MATH 2145 – 14/19 (73.68%) of students met competency MATH 2155 – 6/12 (50%) of students met competency MATH 2145 – 9/12 (75%) of students met competency MATH 2155 – 6/13 (46.15%) of students met competency
2018-2019 Results	MATH 2145 – 8/16 (50%) of students met competency MATH 2155 – 14/16 (87.5%) of students met competency MATH 2145 – 18/27 (66.67%) of students met competency MATH 2155 – 4/6 (66.67%) of students met competency
2019-2020 Results	MATH 2145 – 17/23 (73.91%) of students met competency – both semesters combined**spring COVID-19
2020-2021 Results	MATH 2154 – 25/42 (59.5%) of students met competency – both semesters
Summary of changes for 2018-2019	Incorporate more application problems (physics in particular) in the class lecture and homework problems. Students seem to understand concepts, but lack ability to apply those concepts.
Recommendation for changes for 2019-2020	Not always meeting benchmark – need to emphasize more in class and see what is different from fall to spring. Continue to focus on how to analyze word problems.
Recommendation for changes for 2020-2021	With the split of the calc courses – some questions were shifted between courses. Some assessments may not have been given after the shift to online in the spring.
Recommendation for changes for 2021-2022	With the mix of students in person and online live – not sure how accurate results were for the assessments (in particular those in an o-live situation). Will start looking at how assessment results break down between the different modes of instruction (in person, online, and o-live). First full year of the 3 calc sequence courses. Calc I – new instructor could be reason for drop in success. Will see how rates change with more experience to clear up confusion. Assessment results for Calc III were much higher – maybe splitting the courses up helped to allow time for understanding the material.
Biological Science Degree – Pre-Pharmacy Option	
Date	**5/23/2022**
Competency # and Description	6. Demonstrate effective implementation of the scientific method and written and oral expression of scientific concepts and data.
Course	MATH 2103 – Elementary Calculus
Activity	MATH 2103- Word problem involving revenue and marginal revenue
Measurement (attached copy of instrument with point distribution)	MATH 2103 - Common questions assessed on a quiz
Evaluation Criteria	MATH 2103 - Students will earn 70% or better on the quiz
Fall 2021/Spring 2022 Results	MATH 2103 – 13/14 (92.9%) of students met competency.
Interpretation of Results for Fall 2021/Spring 2022	MATH 2103 – Students seem to be doing well as instructor is more comfortable teaching material.
Reflection of Results for Fall 2021/Spring 2022	MATH 2103 – First year this instructor gave assessment, will want to see how things go this next year before adjusting.
Actions for Fall 2022 Based on Results	MATH 2103 – Look at data after this year to see if changes can be made to challenge students more.
Timeline for Review	Fall data will be collected and reviewed in the spring and instructors from all campuses will determine needed adjustments.

Past Data and Actions	
2015-2016 Results	N/A
2016-2017 Results	MATH 2103 – 12/15 (80%) of students met competency
2017-2018 Results	MATH 2103 – 8/10 (80%) of students met competency
2018-2019 Results	MATH 2103 – 12/16 (75%)
2019-2020 Results	MATH 2013 – 4/5 (80%) of students met competency
2020-2021 Results	MATH 2013 – none given (new instructor, assessment wasn't passed along by mistake)
Summary of changes for 2018-2019	Continuing with same questions to get another year of assessment to see where changes should be made.
Recommendation for changes for 2019-2020	Work on another year – new instructor and want to see if there is any consistency in results before adjusting.
Recommendation for changes for 2020-2021	With switching to online mid-semester and such a small group – need to really look when we can collect more data.
Recommendation for changes for 2021-2022	No changes as it wasn't given – new instructor wasn't given assessment info by mistake

Summary of Program and Divisional Changes	
2016-2017	• Began offering a few pilot sections of College Algebra Supplement and Math Applications Supplement on all three campuses. • Increasing the offerings of Calc I and II to meet the needs of students.
2017-2018	• Supplements offered nearly full scale on each campus
2018-2019	• Continuing to adjust how supplements are run and offered on each campus. • Calc I and II offered each semester – ITV Calc I off semesters and Calc II due to decrease in numbers. Will adjust as numbers increase with Enid getting Engineering program. • Changed the name from College Algebra to Algebra for STEM starting summer 2019. Changed name from Pre-College Algebra to Pre-STEM Algebra starting summer 2019. • Allowed College Algebra and Trig to be taken concurrently due to low Fast track numbers.
2019-2020	• Started to offer calc as a 3-semester sequence (4 credit hours each) with Calc I in spring of 2020 (finished 2 semester sequence with Calc II spring 2020) • Began offering Math Functions on Tonkawa and Enid campuses fall 2019 • Began offering Math Functions online spring 2020
2020-2021	• Looking at just offering business calc in person in spring, online in summer. • Going to try a calc III in the summer 2021 to catch anyone that may be leaving before fall semester. • Offered calc over 3 courses. • Added Pre-STEM online
2021-2022	•

Recommendations for Program Changes

2017-2018	• Increase the offerings of Supplement offerings to more full scale. • Begin work on new remedial course to replace concepts and intermediate to prepare for college algebra to implement fall 2018. • Continue to watch Calculus numbers to gauge the need for offering both each semester. • Start offering Supplement to Math Functions fall 2017. • Offer Math Functions on all campuses when degree requirements make changes.
2018-2019	• Removing the pre-requisite for Statistics and starting Supplement for Statistics fall 2018 • Changing the name of Intermediate to Pre-College Algebra – to stress for college algebra track only • Offer Math Functions on Enid and Tonkawa campuses as soon as we hear approval from some transfer colleges • Holistic placement
2019-2020	• Considering to adjust the Calc offerings from 2 5-credit hour courses to 3 courses (4-3-3). • Adding Math Functions in Enid and Tonkawa with the adjustments to degree sheets being made. • Look to add Math Functions online in the spring.
2020-2021	• Adding Pre-STEM online fall 2020 • Possibly add online or zoom supplement for online courses
2021-2022	• Removing Stat supplement for fall 2021, can take stat with 19 ACT. If below 19, will need to take Math Apps or Math Functions with supplement (or Pre-STEM or Algebra for STEM with supplement – not recommended). • Approved to start teaching MATH 1813 in Stillwater to replace MATH 1613 (due to OSU changes). Will start spring 2022. • Consider some online live only sections of certain courses. • Look to tie supplements to specific sections of the main course (like science labs possibly)
2022-2023	•

Math

		Program Level Outcomes Timeline				
Program Objectives – Math	Course Map	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
1. Sketch or identify and interpret graphs	MATH 1613 MATH 2145 MATH 2155	X	X	X	X	X
2. Manipulate, simplify and/or solve expressions or equations.	MATH 1613 MATH 2145 MATH 2155 MATH 2613	X	X	X	X	X
3. Solve and interpret real world application problems.	MATH 1613 MATH 2155	X	X	X	X	X
Use and apply physical data to solve problems	MATH 2145, MATH 2155	X	X	X	X	X

Use logical reasoning to solve problems	MATH 2145, MATH 2155	X	X	X	X	X
Demonstrate effective implementation of the scientific method and written and oral expression of scientific concepts and data.	MATH 2103	X	X	X	X	X