

#BeMoreAtMCC

Community College Mathematics Recalculated: Remediation, Pathways, and Placement

June 15, 2018

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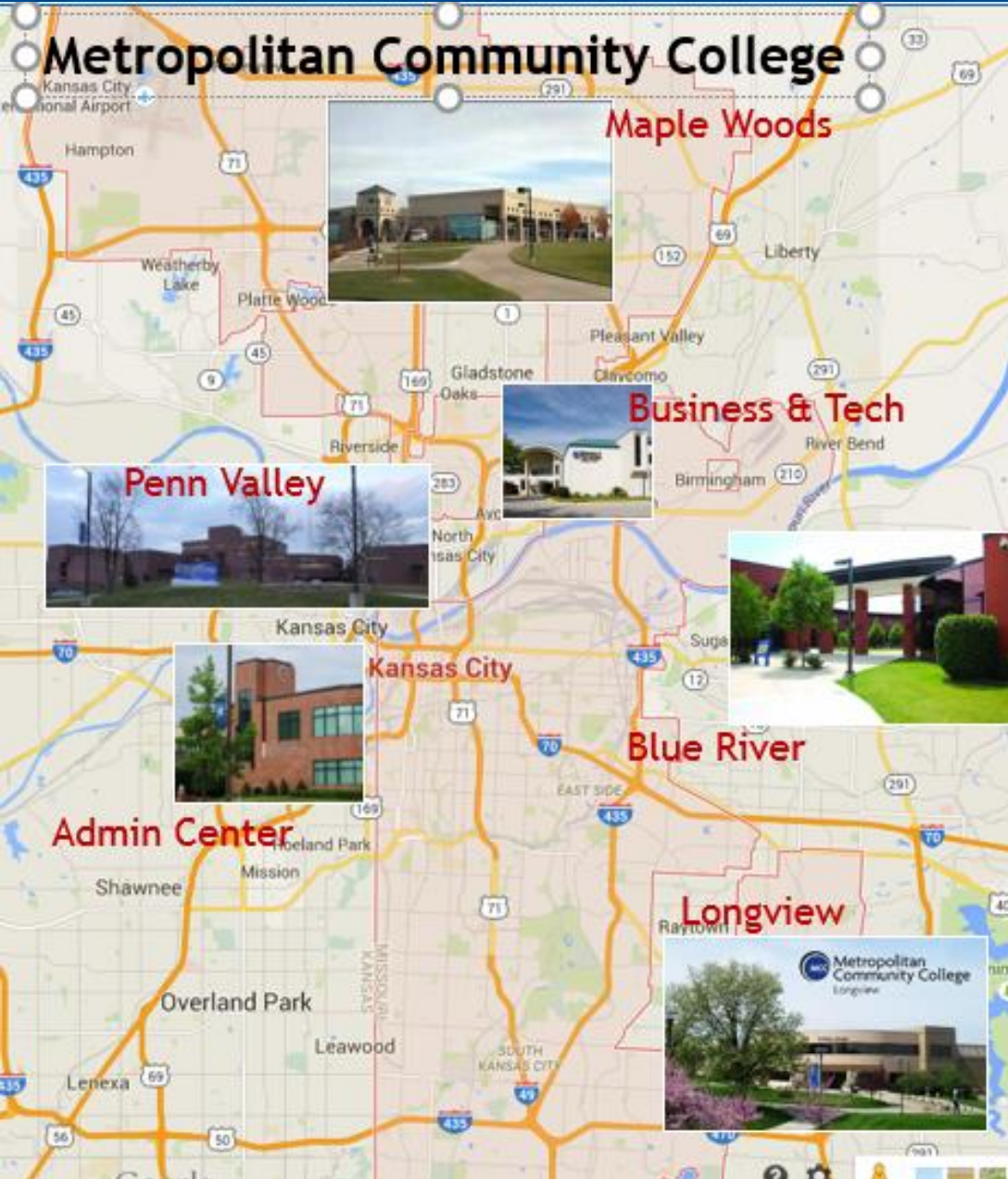
The logo for Metropolitan Community College (MCC) is located in the bottom left corner. It features the letters "MCC" in a large, bold, white sans-serif font. To the right of the text is a thick white arc that curves around the letters, resembling a stylized "C" or a partial circle.

MCC

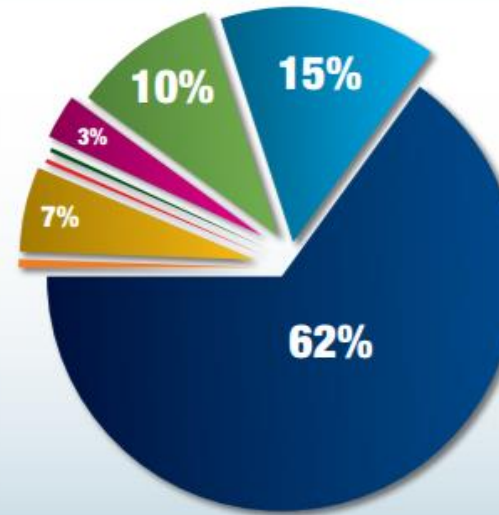
Metropolitan
Community College

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STUDENT RACE/ETHNICITY



2015



STUDENT HEAD COUNT

2016: **18,331**

STUDENT ENROLLMENT STATUS

2016



Full time **6,809 (37%)**



Part time **11,503 (63%)**



Female **10,631 (58%)**

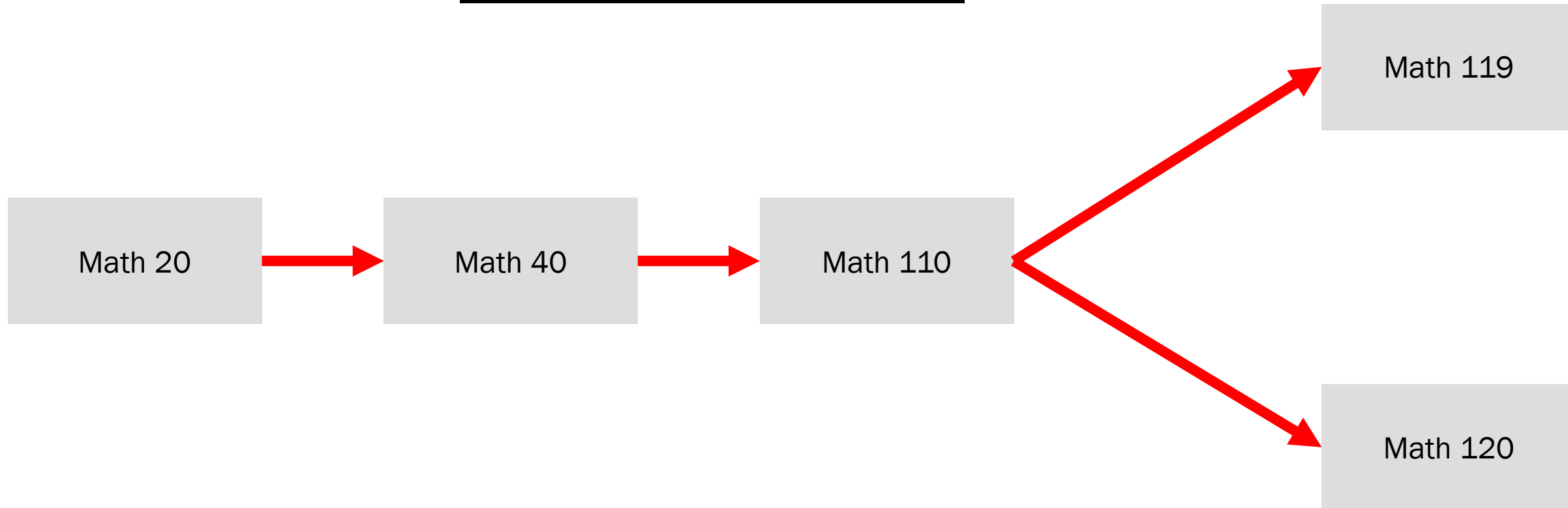


Male **7,681 (42%)**

Traditional Math Courses at MCC

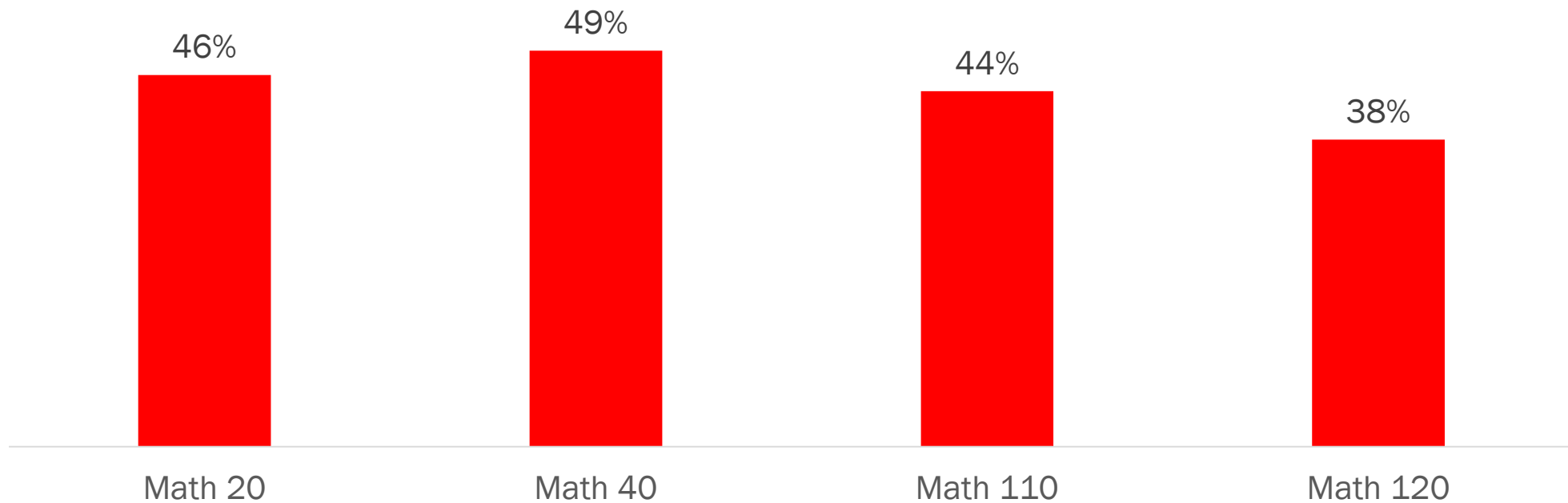
- Math 20 – Basic Mathematical Operations
- Math 40 – Introductory Algebra
- Math 110 – Intermediate Algebra
- Math 115 – Statistics
- Math 119 – College Mathematics
- Math 120 – College Algebra

Before Fall 2017



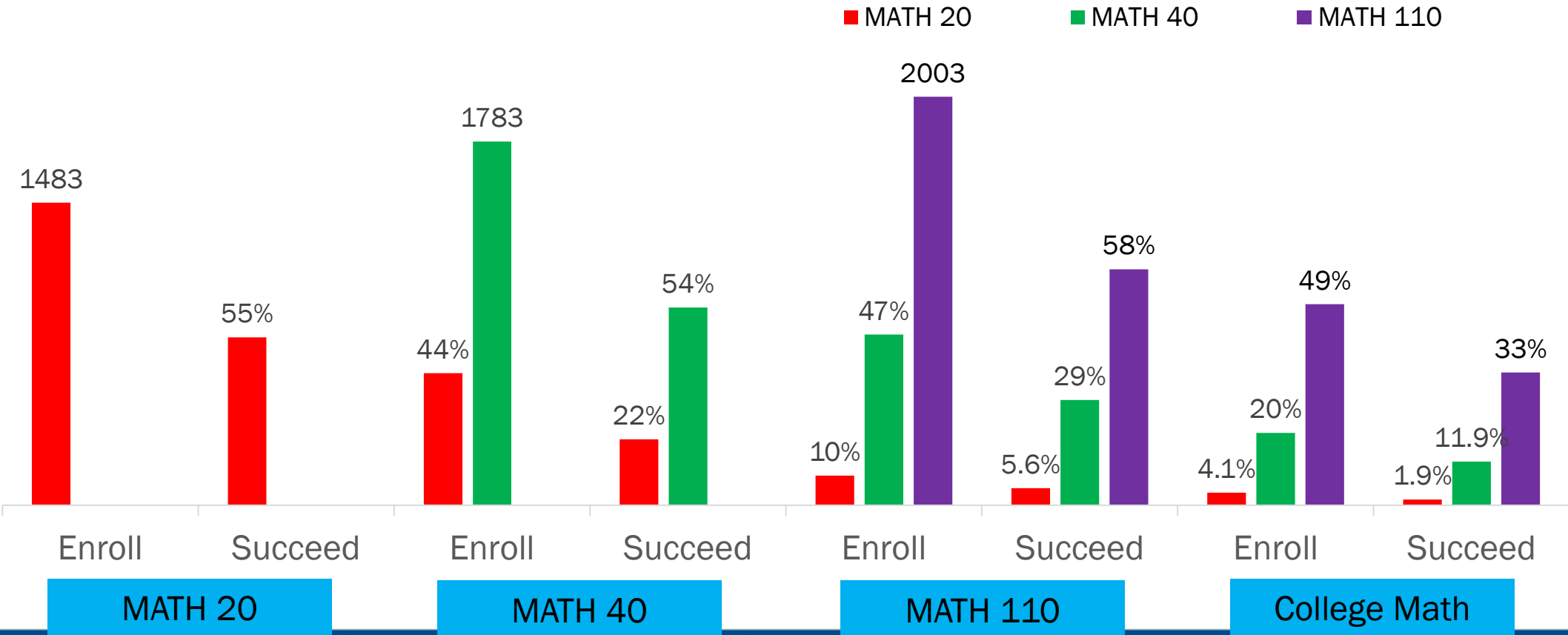
DFW Rates in Math at MCC

2011-2012 (from MCC IR)



Traditional MCC Mathematics

Fall 2012 Cohort



Fall 2013 – Three Title III Grants

- Blue River Campus Title III Grant
- Penn Valley Campus Title III Grant
- Institutional (all 5 campuses) Title III Grant – “F-Grant”

Grant Required Redesign

- Fully Modular Math 20
- Fully Modular Math 40
- Fully Modular Math 110
- Math 40 class + lab
- Math 110 class + lab

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What We Did

Math 91/92/93

- Emporium Style via ALEKS
- Online Assessments
- 15 Modules

Co-Requisites

- Triangle Model for Math 20/Math 40
- Triangle Model for Math 40/Math 110

The Original Emporium Design

Math 91/92/93 (712 topics)

Math 20

~Modules 1-5

295 topics

Math 40

~Modules 6-10

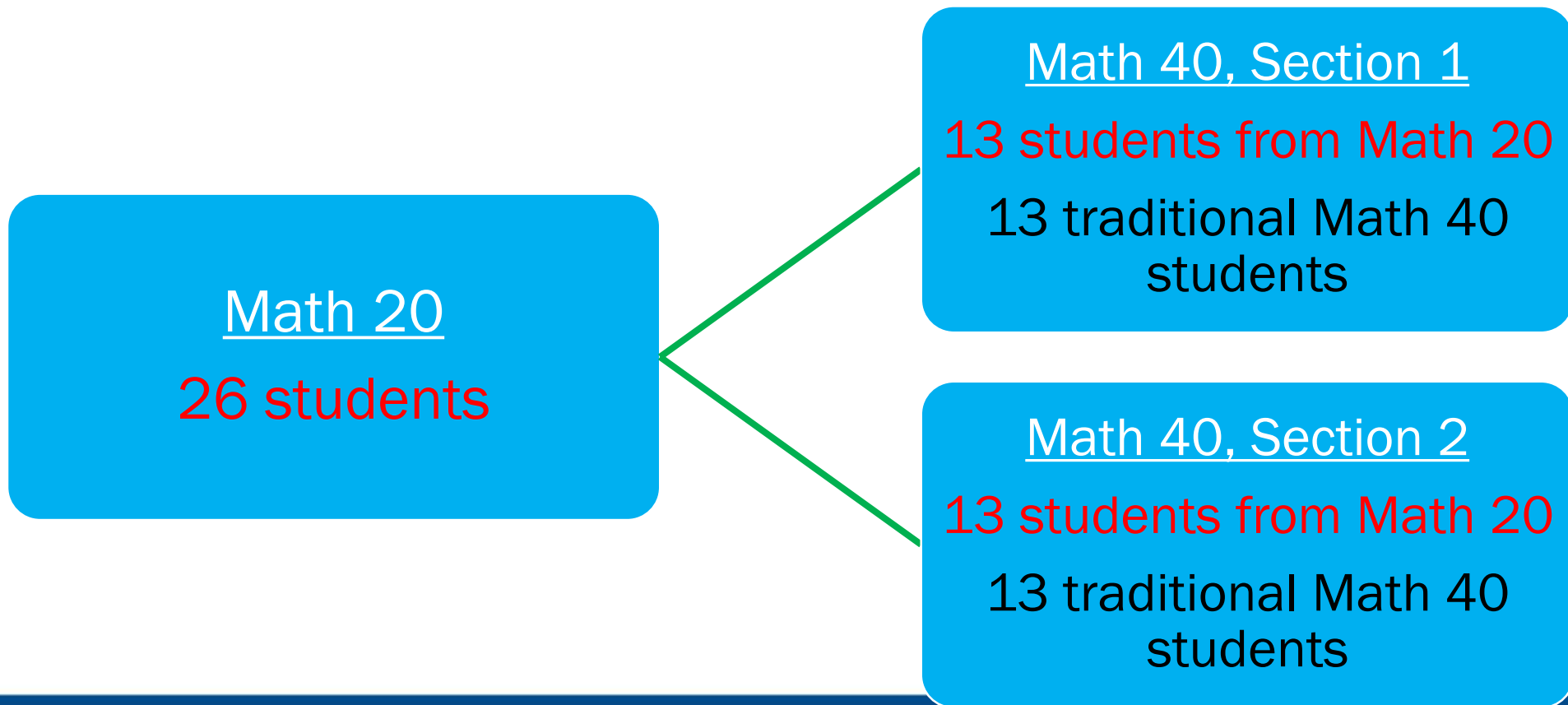
205 topics

Math 110

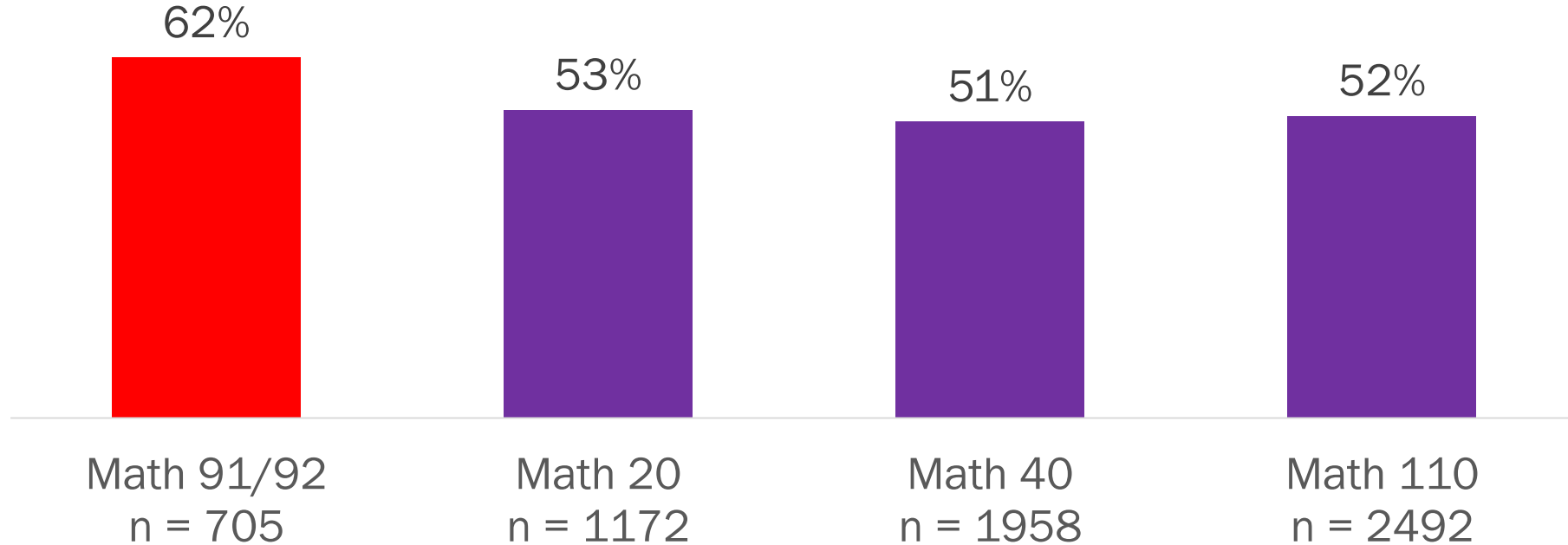
~Modules 11-15

255 topics

Triangle Co-Requisite Design – Fall 2014

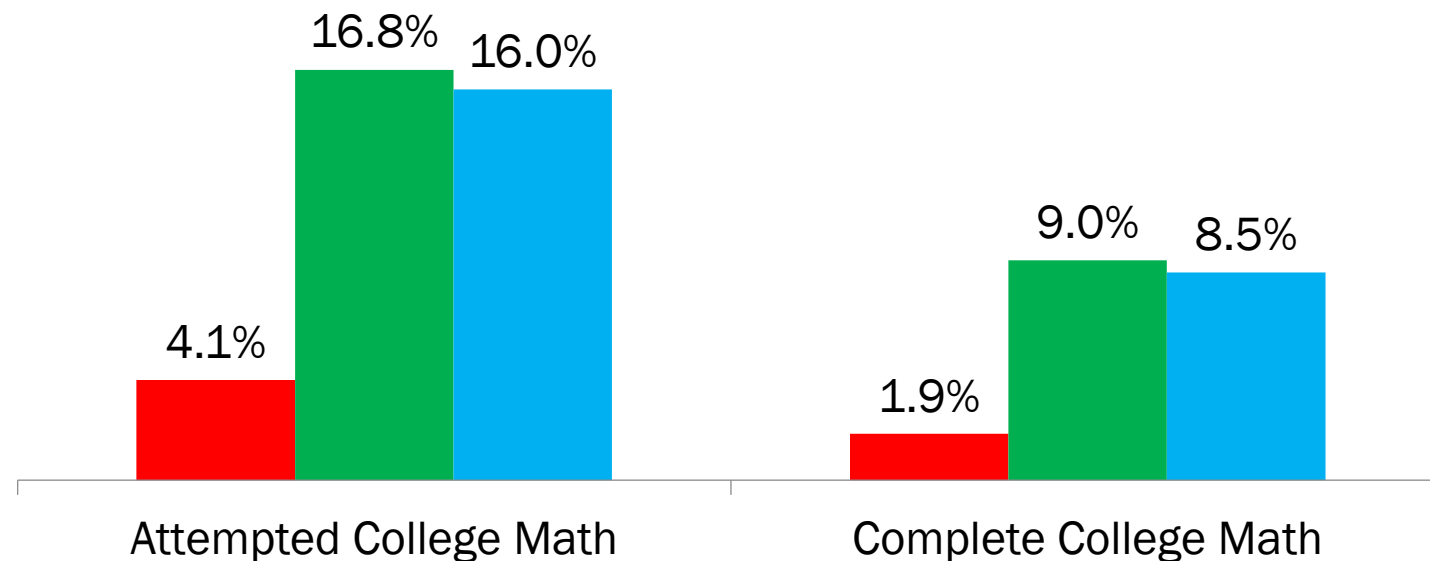


Overall Student Success in Math 91/92/93 Fall 2014 – Spring 2015



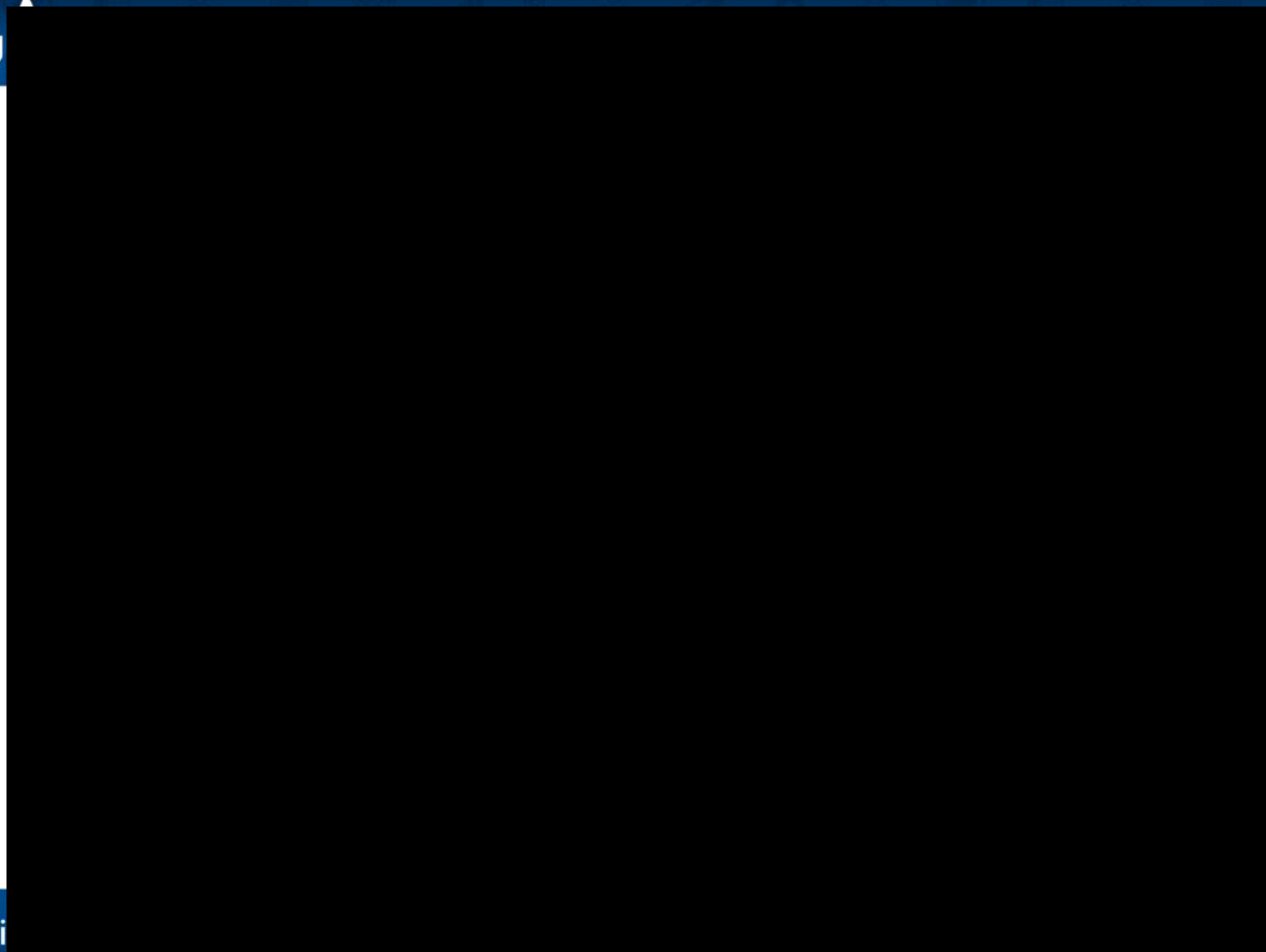
Pilot Student Performance in College Math Through Spring 2016

MATH 91 Students



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Student Performance Comparison

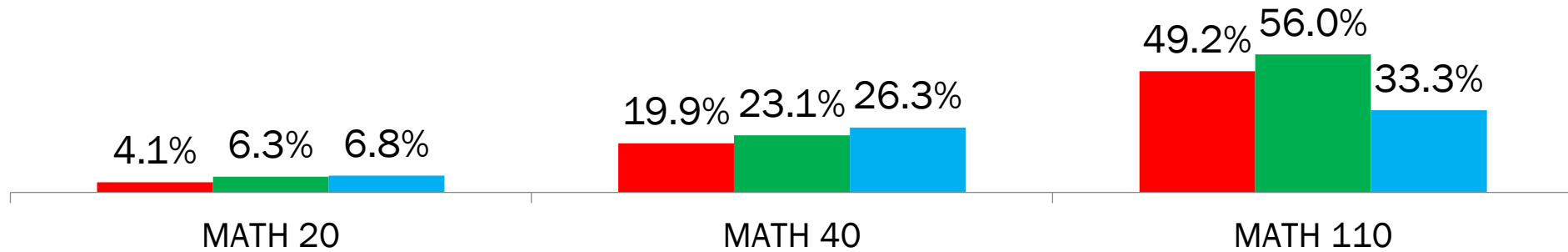
These numbers include only students from Fall 2014 and Spring 2015

	Traditional Math 20 – Math 40 – Math 110 Path	Redesigned Math 91/92/93 path
Placed into Math 20 and completed through Math 110 in one semester	0%	0.35% (1/287)
Completed two or more courses in one semester	0%	4% (21/498)
Placed into and Passed Math 20 in One Semester	54% - IR 2012	51% (146/287)
Place into Math 20 and Pass Math 40 within 2 Semesters	22% - IR 2012	15% (32/214)
Placed Math 40 and Pass Math 110 within 2 Semest.	27% - IR 2012	19% (31/163)

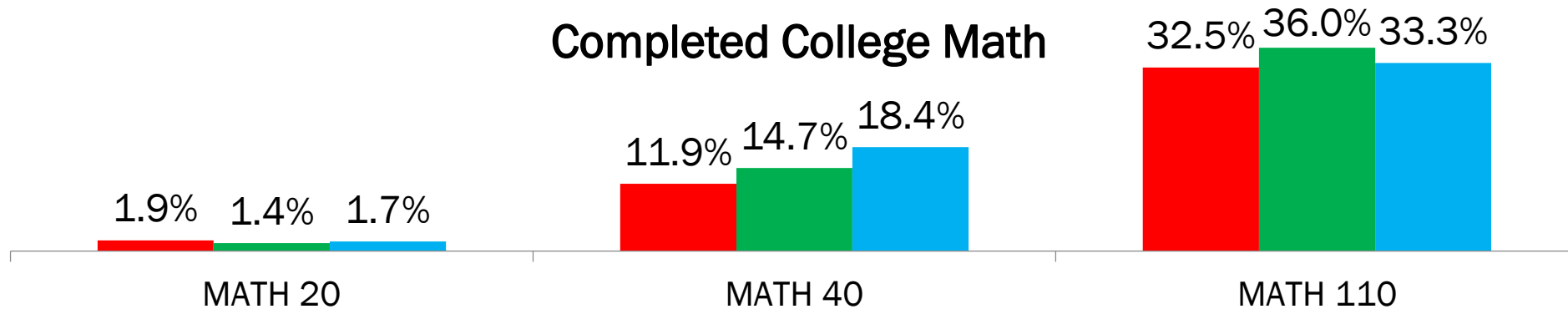
MATH 91 Student Performance

Placement Categories – All Pilot Students

Attempted College Math



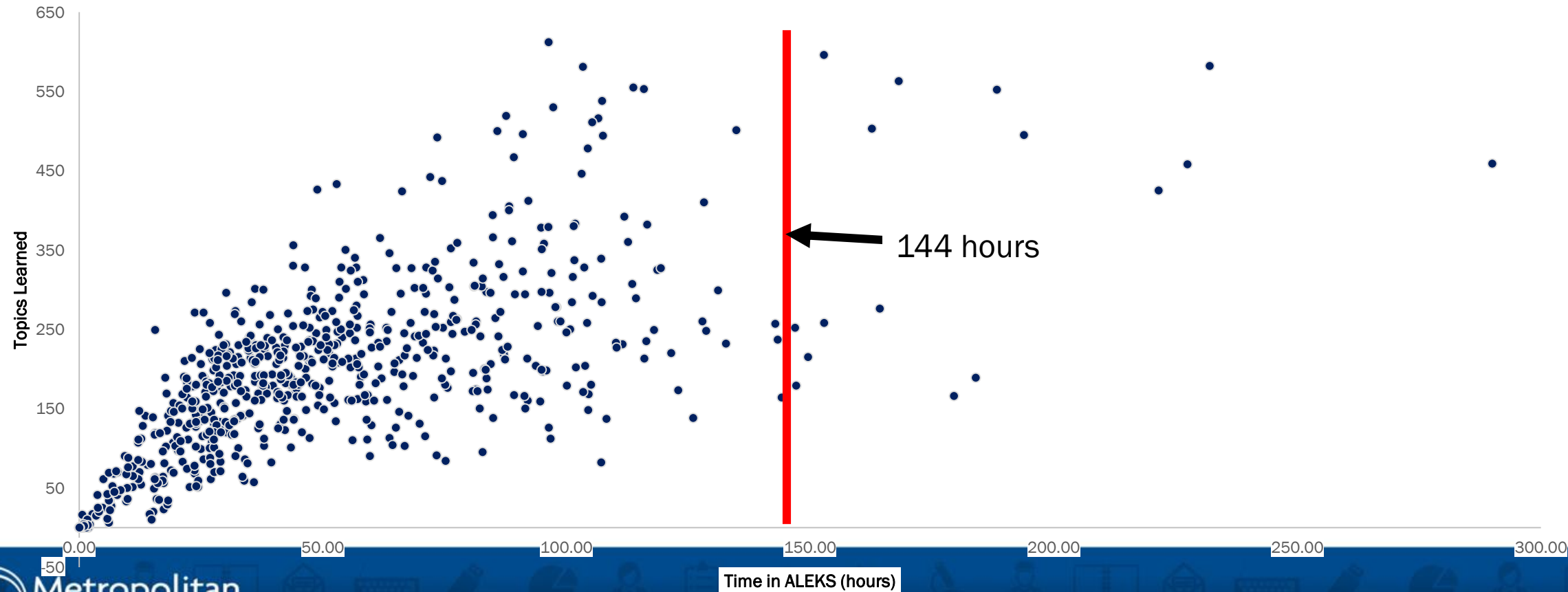
Completed College Math



■ Baseline
■ Fall 2014 Cohort
■ Spring 2015 Cohort

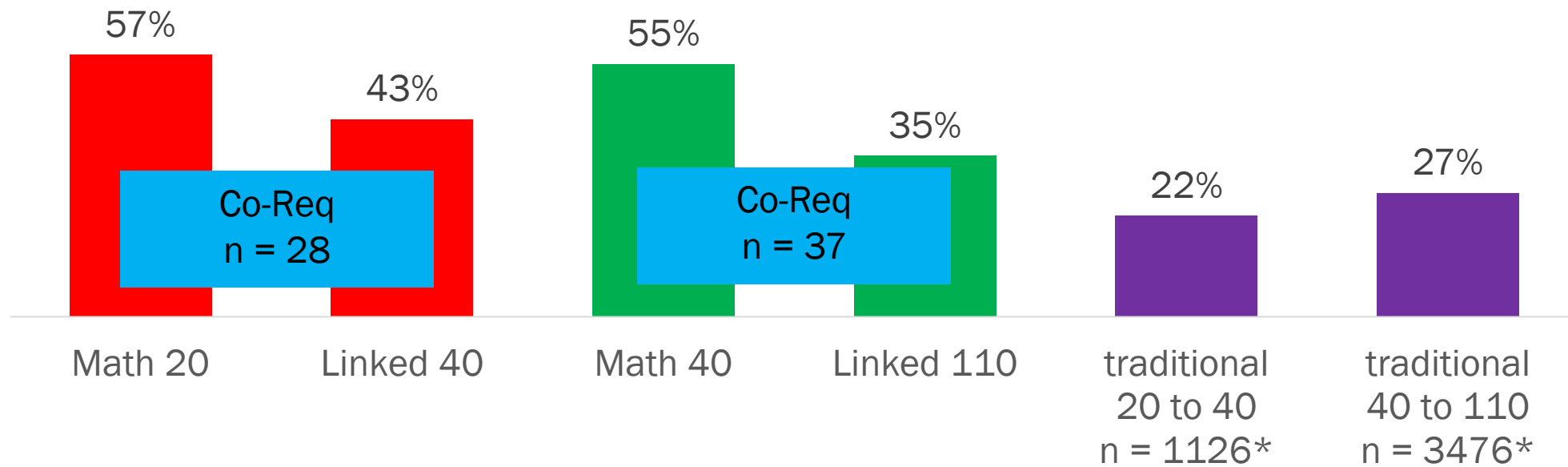
Time Spent in ALEKS

Math 91/92 Time vs. Topics Fall 2014 & Spring 2015



Fall 2014 – Spring 2015 Corequisites

*data from MCC 2009-2010



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New Design – One Semester Courses

Math 31(282 topics)
8 Modules

Math 20
~Mods 1-3
132 topics

Math 40
~Mods 4-8
152 topics

Math 110 (213 topics)
8 Modules

Math 40
~Mods 1-3
93 topics

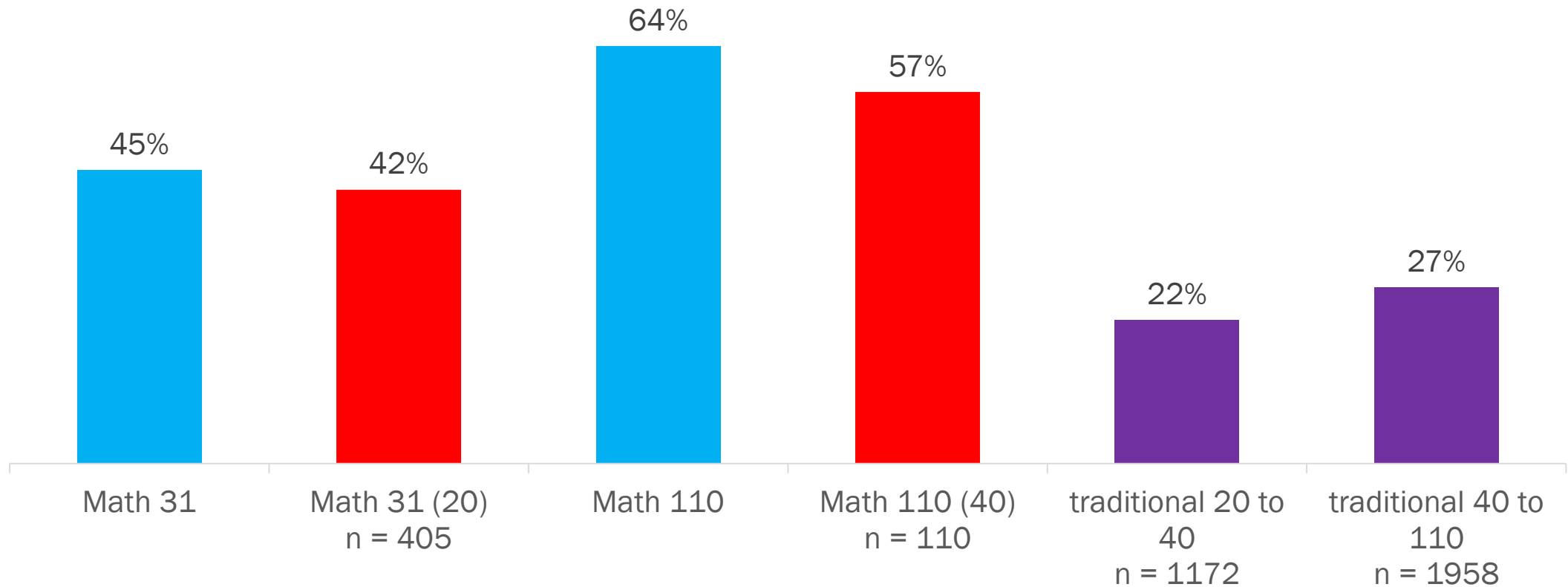
Math 110
~Mods 4-8
120 topics

Co-Requisite Design for Fall 2016

Math 40
26 students

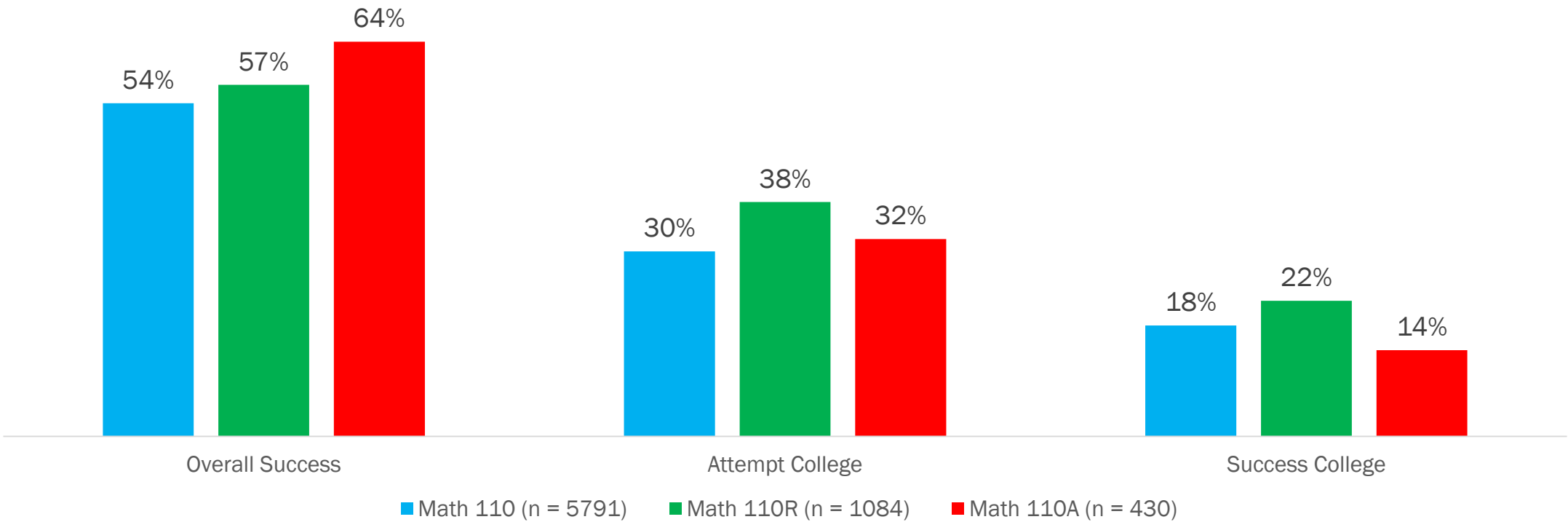
Math 110
26 students from Math 20
9 traditional Math 110
students

Revised Math 31/110 Success Fall 2016 – Spring 2017



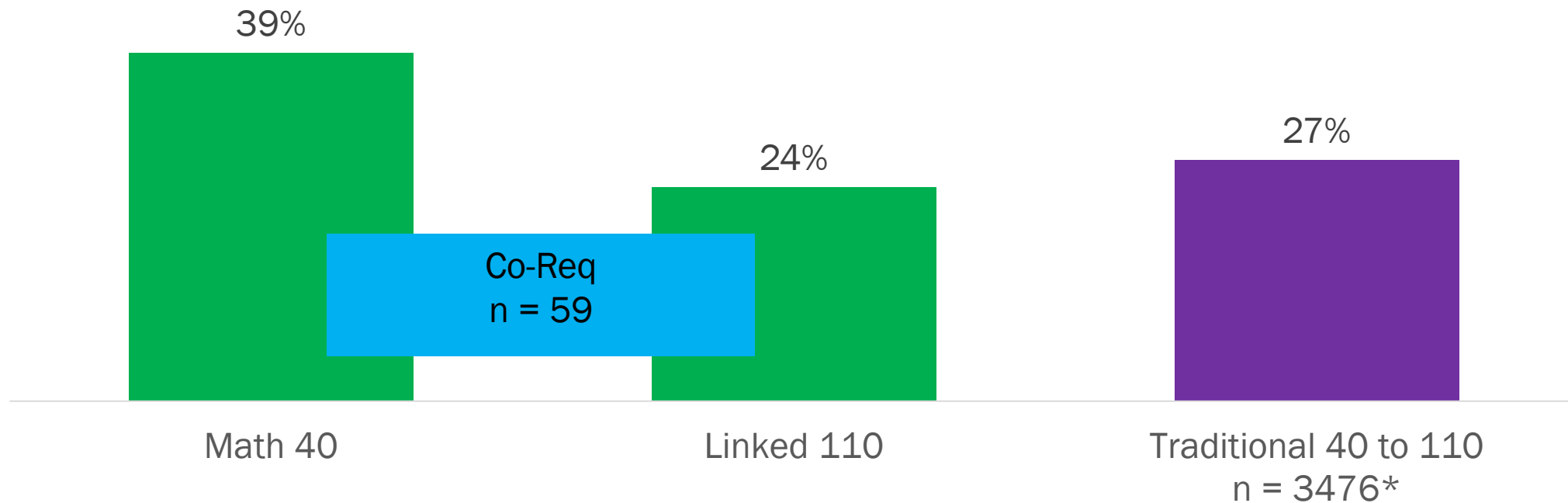
Math 110 Comparison

*Math 110 and 110R data from Fall 2012 through Fall 2014



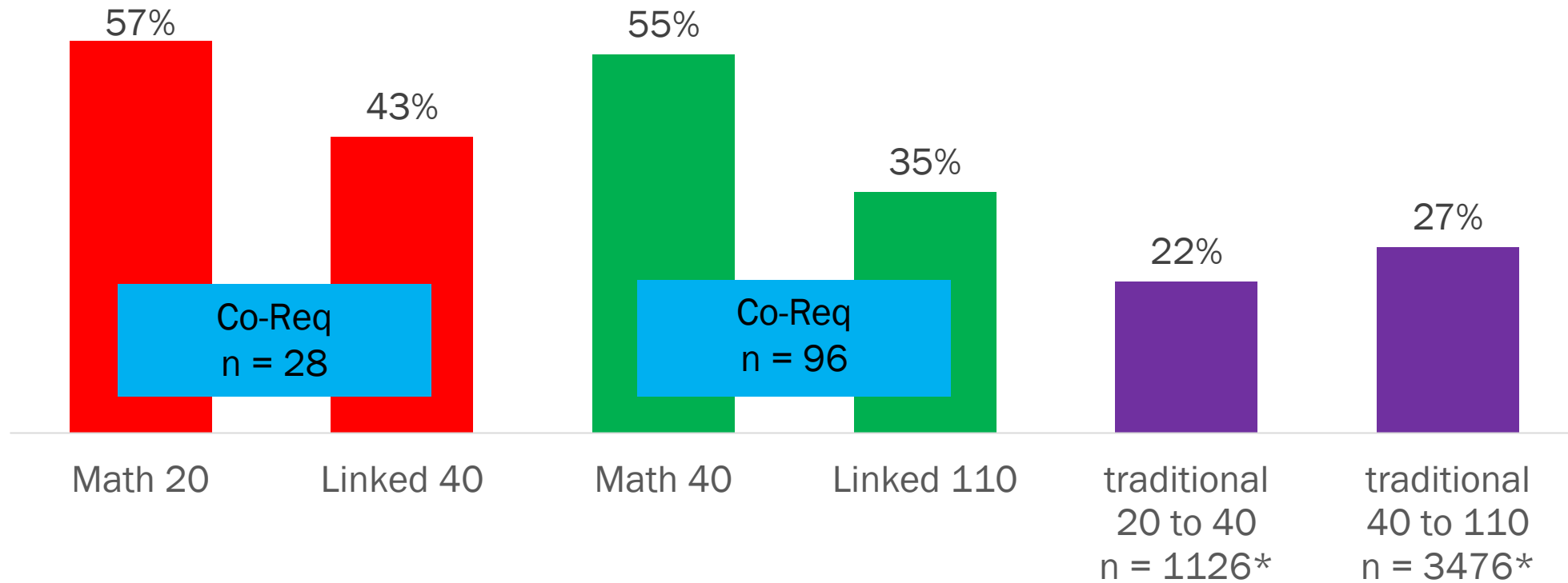
Fall 2016 – Spring 2017 CoRequisites

*data from MCC 2009-2010



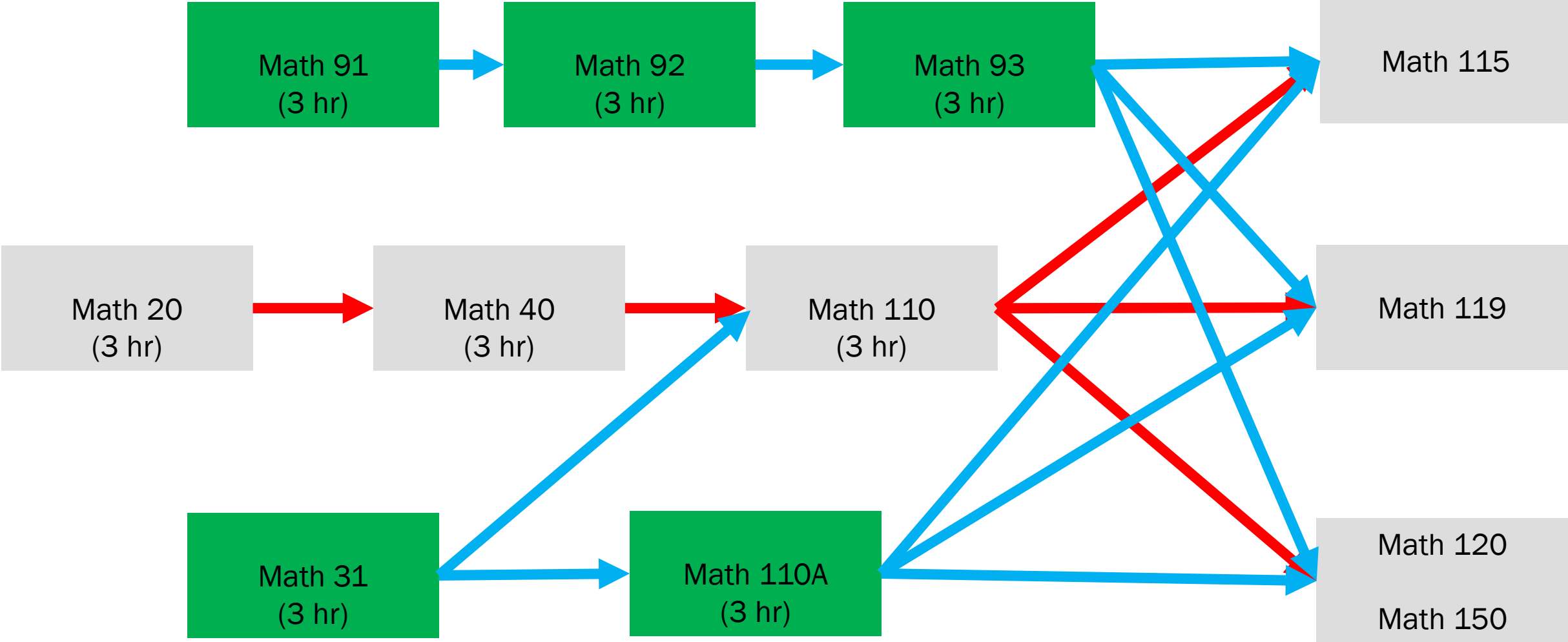
Combined Corequisite Success

*data from MCC 2009-2010



Wash Pathways





New Math Courses

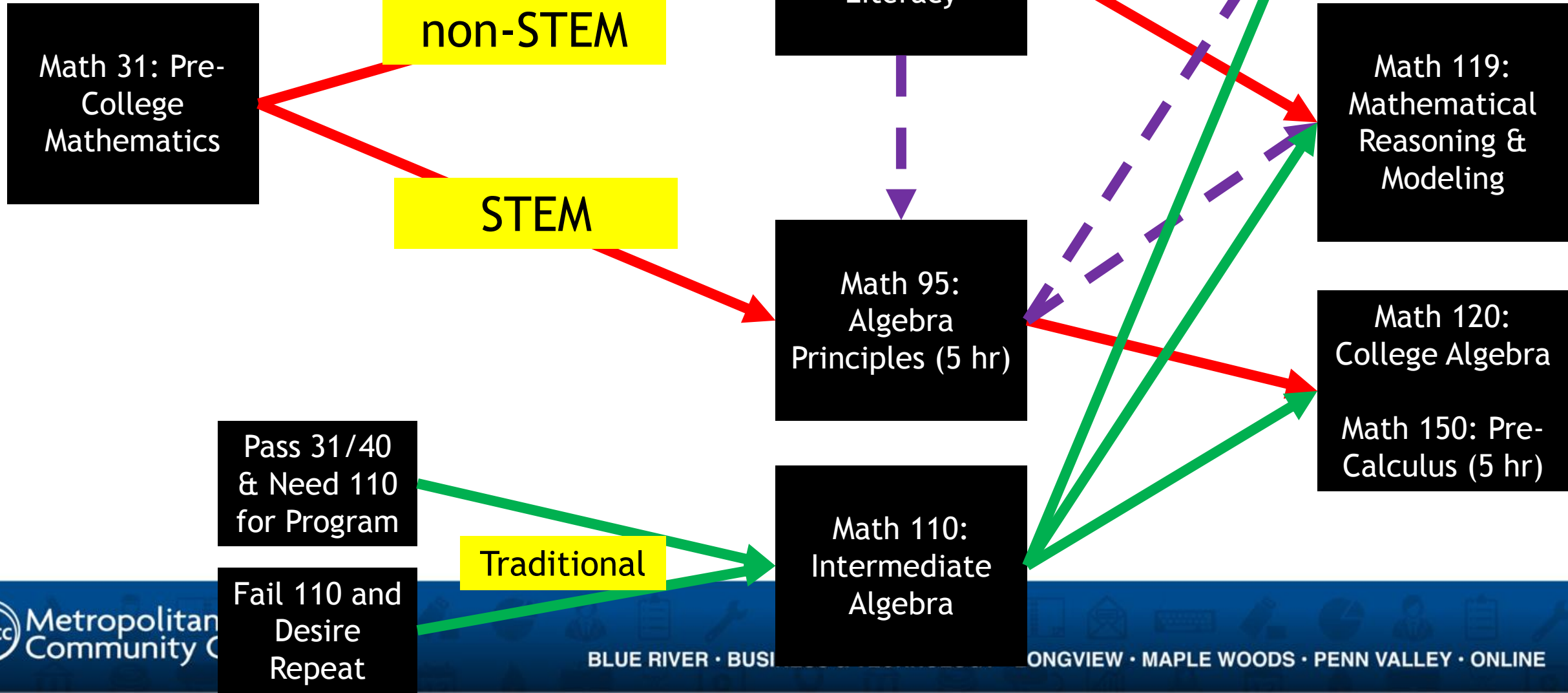
- Math 31 – Pre College Mathematics
 - Combines elements of old Prealgebra and Introductory Algebra. Many sections use ALEKS.
- Math 85 – Mathematical Literacy
 - Developmental course designed to prepare students for either Statistics or Quantitative Reasoning
- Math 95 – Algebra Principles
 - Used to be Math 110 – Intermediate Algebra
- Math 119 – Mathematical Modeling and Reasoning
 - Revamped; MCC's version of Quantitative Reasoning

Pathways Fall 2018 ONLY

— Red lines show the recommended pathways.

- - Purple dashes indicate that students have options ... if, for example, they decide to switch from the STEM path to non-STEM.

— Green lines show the traditional path still in place for Fall 2017 only.



Dana Center



The University of Texas at Austin
Charles A. Dana Center

Notes from the Field – Number 1 / 2017

Faculty Engagement at Metropolitan Community College–Kansas City



MCCKC Implementation Staff: back row, left to right: Tim Chappell, Jason Pallett, Bill Morgan IV, Elisabeth Bletscher, Berg Heskin
front row, left to right: Stacey McMillen, Jennifer Johnson, Cheryl Winter

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Current Placement Tool

Accuplacer





New Mexico State University

Mathematics Placement

ACTM	SAT (new)	SAT (old)	High School GPA							
			[0, 2.5)	[2.5, 2.75)	[2.75, 3)	[3, 3.25)	[3.25, 3.5)	[3.5, 3.75)	[3.75, 4)	>= 4
<14	<450	<410	CCDM 105N		0				1	
14-15	450-470	410-430	0	0	1	1	1	1	1	1
16-17	480-500	440-460	1	1	1	1	2	2	2	2
18-19	510-520	470-490	2	2	2	2	2	2	3	3
20-21	530-550	500-520	2	2	3	3	3	3	3	3
22-23	560-570	530-550	3	3	3	3	3	3	4	4
24	580-600	560-580	3	3	4	4	4	4	4	4
25	610	590	4	4	4	4	4	4	4	4
26-36	620	600	4	4	5					

*SAT: Use new Math score if SAT taken after May 2016. Use old Math score if SAT taken before May 2016.

0	CCDM 103N
1	A S 103, CCDM 114N
2	Math 120, Math 210G
3	Math 111, Math 121G, Stat 251G, Stat 271G
4	Math 190G, Math 142G
5	Math 191G, 235

Course Titles		
Number	MPL	Title
CCDM 103N	0	Pre-Algebra
A S 103	1	Quantitative Foundations
CCDM 114N	1	Algebra Skills
Math 111	3	Fund of Elementary Math I
Math 120	2	Intermediate Algebra
Math 121G	3	College Algebra
Math 142G	4	Calc for the Biol & Mngt
Math 190G	4	Trig & Pre-Calculus
Math 191G	5	Calculus I
Math 210G	2	Mathematics Appreciation

Math Placement Based on MPE

MPL	MPE Score	
0	0-3,-,-,-	Pt. 1 Score
1	4-5,-,-,-	Pt. 1 Score

Mathematics	Unweighted Cumulative 11- or 12-Semester High School Grade Point Average								
ACT-M	<2.00	[2.00, 2.25)	[2.25, 2.50)	[2.50, 2.75)	[2.75, 3.00)	[3.00, 3.25)	[3.25, 3.50)	[3.50, 3.75)	>= 3.75
0-13	31	31	31	31	31	31	31	31	31
14	31	31	31	31	31	31	31	31	31
15	31	31	31	31	31	31	85/95/103	85/95/103	85/95/103
16	31	31	31	31	85/95/103	85/95/103	85/95/103	85/95/103	85/95/103
17	31	85/95/103	85/95/103	85/95/103	85/95/103	85/95/103	85/95/103	85/95/103	85/95/103
18	31	85/95/103	85/95/103	85/95/103	85/95/103	85/95/103	85/95/103	Gateway	Gateway
19	31	85/95/103	85/95/103	85/95/103	85/95/103	85/95/103	85/95/103	Gateway	Gateway
20	31	85/95/103	85/95/103	85/95/103	85/95/103	85/95/103	Gateway	Gateway	Gateway
21	31	85/95/103	85/95/103	85/95/103	85/95/103	85/95/103	Gateway	Gateway	Gateway
22	Gateway	Gateway	Gateway	Gateway	Gateway	Gateway	Gateway	Gateway	Gateway
23	Gateway	Gateway	Gateway	Gateway	Gateway	Gateway	Gateway	Gateway	Gateway
24	Gateway	Gateway	Gateway	Gateway	Gateway	Gateway	Gateway	Gateway	Gateway
25	130	130	130	130	130	130	130	130	130
26	130	130	130	130	130	130	130	130	130
27	130	130	130	130	130	130	130	130	130
28-36	180	180	180	180	180	180	180	180	180

DevEd 3		High School GPA																			
ACT-M	SAT	<2.00		[2.00, 2.25)		[2.25,2.50)		[2.50, 2.75)		[2.75, 3.00)		[3.00, 3.25)		[3.25, 3.50)		[3.50, 3.75)		>= 3.75			DevEd 3 =
0-13		0%	8	50%	4	40%	5	33%	9	50%	2	100%	3	0%	1	50%	2				Math 20
14		28%	18	25%	12	46%	13	40%	25	20%	10	55%	11								Math 31
15		34%	29	63%	24	44%	39	49%	41	58%	33	79%	29	61%	18	50%	4	100%	3		
16		33%	30	54%	26	60%	30	56%	45	68%	38	76%	45	86%	14	80%	10	0%	1		
17		50%	6	33%	3	70%	10	69%	26	59%	22	78%	23	91%	11	80%	5	100%	3		
18		20%	5	60%	5	67%	3	86%	7	89%	9	33%	3	100%	7	100%	1	100%	2		
19		50%	2	50%	4	50%	2	100%	4	80%	5	80%	5	86%	7	100%	1				
20										100%	1	100%	1								
21										0%	1	100%	1					0%	1		
22								100%	1	0%	1										
23				0%	1	100%	1			0%	1										
24								100%	1					100%	1						
25																					
26																		100%	1		
27																					
28-36																100%	1				

DevEd 2		High School GPA																			
ACT-M	SAT	<2.00		[2.00, 2.25)		[2.25, 2.50)		[2.50, 2.75)		[2.75, 3.00)		[3.00, 3.25)		[3.25, 3.50)		[3.50, 3.75)		>= 3.75			DevEd 2 =
0-13		100%	1			0%	2	33%	3			50%	2	100%	1						Math 40
14		25%	4	20%	5	22%	9	20%	5	50%	4	40%	5								Math 40L
15		33%	6	43%	7	21%	14	18%	28	71%	7	38%	13	90%	10	100%	3	0%	1		Math 91
16		0%	12	29%	17	40%	30	50%	44	65%	49	58%	48	76%	33	82%	11	100%	5		
17		27%	15	56%	16	44%	18	53%	47	64%	53	65%	51	67%	33	93%	15	71%	7		
18		33%	9	44%	9	37%	19	67%	27	68%	37	78%	36	83%	23	83%	12	89%	9		
19		33%	3	56%	9	58%	12	52%	21	71%	24	68%	22	82%	22	91%	11	67%	6		
20								100%	2	50%	2	83%	6	100%	1	100%	1				
21				100%	3			0%	1	50%	2	60%	5	0%	1	67%	3	100%	1		
22		0%	1			100%	1	100%	1	33%	3	50%	2	50%	2						
23				0%	1			67%	3	100%	1	67%	3	0%	1			0%	2		
24						100%	1	0%	1			100%	3	100%	2						
25								100%	1	100%	1	0%	1					100%	1		
26										0%	1										
27										100%	1										
28-36										0%	1			100%	1						

DevEd 1		High School GPA																			
ACT-M	SAT	<2.00		[2.00, 2.25)		[2.25, 2.50)		[2.50, 2.75)		[2.75, 3.00)		[3.00, 3.25)		[3.25, 3.50)		[3.50, 3.75)		>= 3.75			DevEd 1 =
0-13																					Math 110
14		33%	3	0%	2			0%	1	0%	1	67%	3								Math110R
15						20%	5	29%	7	75%	4	67%	6	67%	3	80%	5	100%	1		Math 104
16		0%	8	63%	8	20%	5	50%	22	44%	18	47%	30	62%	13	91%	11	100%	1		Math 103
17		33%	6	50%	2	46%	13	56%	27	61%	28	70%	23	58%	38	76%	17	100%	5		Math103R
18		50%	4	67%	3	33%	6	59%	17	52%	33	78%	27	61%	23	89%	18	77%	13		Math 100
19		100%	1	0%	3	33%	3	52%	23	60%	15	73%	30	70%	30	57%	14	100%	6		
20		20%	5	60%	5	33%	9	44%	16	52%	31	59%	27	70%	27	67%	21	79%	14		
21		0%	4	60%	5	25%	4	36%	11	27%	15	61%	23	76%	17	80%	15	100%	9		
22				29%	7	30%	10	24%	17	56%	16	44%	25	85%	20	82%	22	71%	14		
23		0%	5	0%	1	17%	6	58%	12	75%	16	72%	18	75%	24	90%	10	100%	11		
24		0%	1	0%	1	67%	3	33%	3	33%	3	50%	10	67%	6	100%	5	100%	4		
25								100%	1	50%	2	67%	6	71%	7	100%	1	86%	7		
26						0%	1			67%	3	57%	7	75%	4	83%	6	100%	1		
27										100%	1	0%	1	100%	1	100%	2	100%	1		
28-36						100%	1			100%	1	100%	2	100%	2			80%	5		

Gateway		High School GPA																			
ACT-M	SAT	<2.00		[2.00, 2.25)		[2.25,2.50)		[2.50, 2.75)		[2.75, 3.00)		[3.00, 3.25)		[3.25, 3.50)		[3.50, 3.75)		>= 3.75			Gateway
0-13																					Math 120
14								50%	2	0%	1										Math120
15		0%	1					0%	3	0%	3	0%	1	0%	1						Math 150
16				0%	1			33%	3	100%	2	80%	5	67%	3	100%	3	100%	2		Math 119
17				0%	3	0%	2	33%	3	50%	6	71%	7	60%	10	70%	10	100%	1		
18						33%	3	17%	6	17%	6	70%	10	67%	6	50%	10	100%	5		
19		0%	1			50%	2	25%	4	60%	5	43%	14	67%	6	64%	11	71%	7		
20		0%	1	100%	1	8%	12	13%	16	77%	13	63%	32	28%	25	33%	12	92%	12		
21		0%	1	0%	1	100%	2	27%	15	48%	23	61%	18	67%	30	72%	25	100%	15		
22				25%	4	50%	2	50%	12	29%	21	63%	32	60%	30	62%	29	81%	27		
23		33%	3	0%	3	29%	7	33%	24	38%	39	39%	38	66%	44	73%	52	90%	31		
24		0%	5	29%	7	18%	11	33%	21	50%	36	54%	59	70%	61	70%	61	88%	57		
25				0%	3	50%	4	22%	9	48%	23	68%	31	68%	44	78%	55	90%	48		
26		0%	1	0%	1	33%	6	44%	16	53%	17	56%	34	58%	31	85%	40	86%	51		
27		0%	2	100%	1	100%	1	60%	5	40%	5	17%	6	78%	18	89%	18	91%	22		
28-36						67%	3	25%	4	56%	16	64%	11	71%	14	96%	23	88%	33		

Next Task

Corequisites