

Shortening the Path Through Developmental Math

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Overview

- Background Information
- Placement
- Pathways
 - PreCollege Algebra
 - Corequisite College Algebra
 - Corequisite Quantitative Literacy
- Challenges and Support
- Changes and the Future



South Dakota

- 6 State Universities
- 4 Technical Institutes
- No community colleges!



South Dakota State University

- South Dakota's Land Grant Institution
- Located on the east side of the state in Brookings, SD; population 22,200
- Largest University in South Dakota with over 12,500 students
- Admissions requirements - ACT of 18 or above (SAT-1 score of 870 or above)
- 14.7% of first time Freshmen place into developmental math



Placement

The first step is to make sure
students are where they need to
be!



SD Board of Regents Placement Policy

Course	<u>MATH Index (MI)</u>	Accuplacer Score
PreCollege Algebra	0 or higher	Arithmetic 0 - 120 or Elem Algebra 0 - 75
College Algebra with Lab or Quant. Lit. with Lab	950 or higher	Elem Algebra 44 - 75
College Alg. or Quant. Lit. or Intro to Stat. with Lab	1150 or higher	Elem Algebra 76 - 120 College Level 0 - 50



Math Index

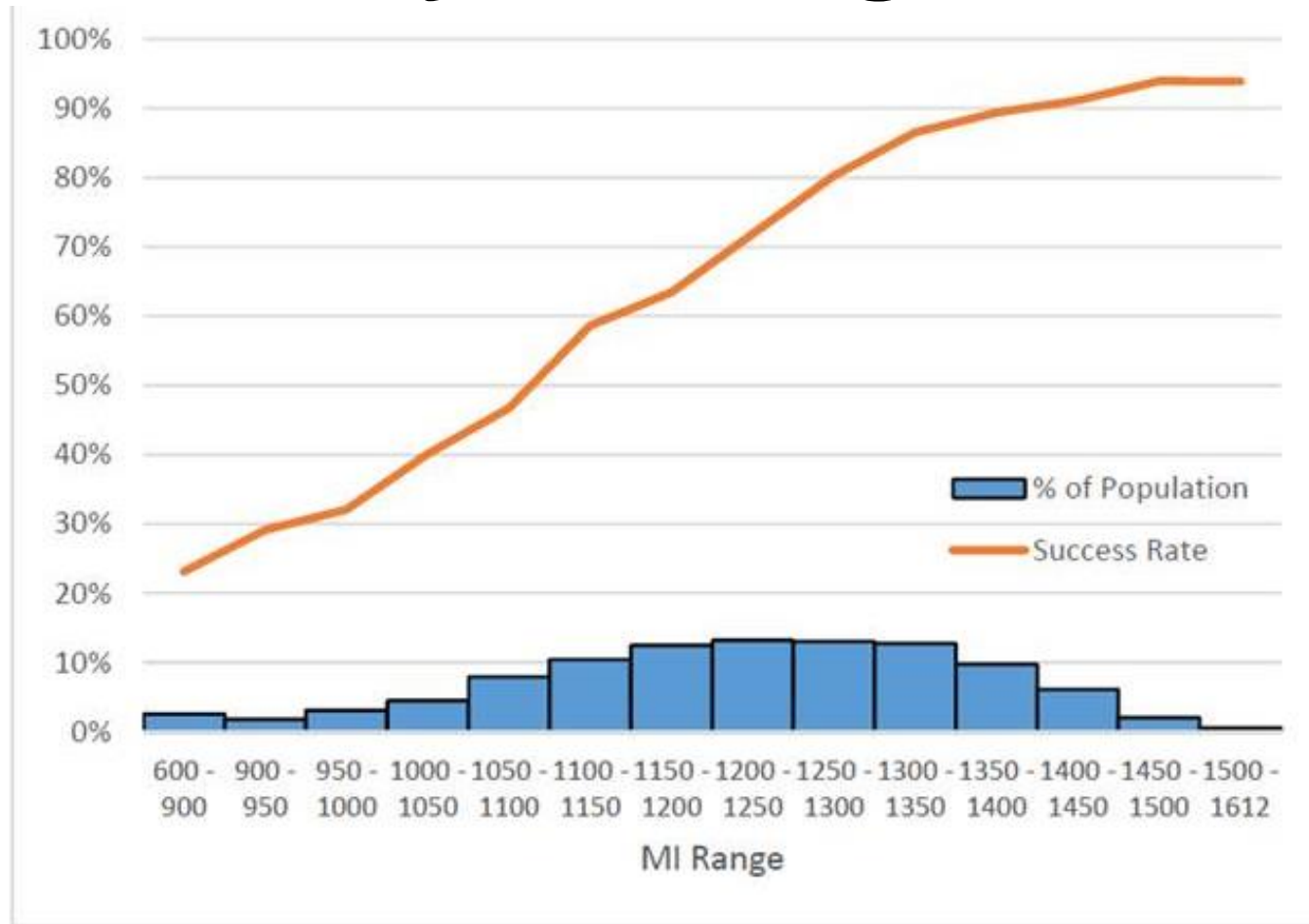
- Math Index is calculated as follows:

$$\text{MI} = (17 \times \text{Math ACT}) + (250 \times \text{unweighted HS GPA})$$

- Students can challenge MI placement by taking the Accuplacer

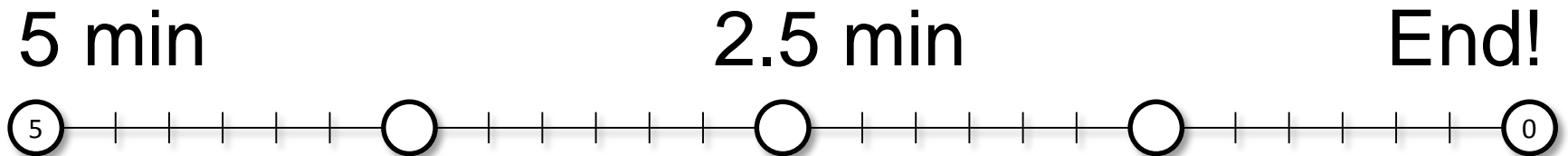


College Algebra Success Rates by MI Range



Placement Discussion

- Take 5 minutes to discuss with your table how placement works at your institution.
 - Do you feel your placement policy is effective?



Pathways

Create alternate paths for liberal arts and STEM majors and reduce the number of courses on the path.



Changes over the Last 5 Years

Prior to 5 years ago, we had a traditional format – Basic Algebra to Calculus

- Went from two developmental courses to one 2-semester mastery based developmental course.
- Converted mastery course to a “1 semester” mastery course.
- Created a Quantitative Literacy course.
- Created corequisite for College Algebra followed by ones for Quantitative Literacy and Intro to Statistics.



Current PreCollege Algebra

- Mastery based - (Self-Paced)
- 3 classes a week, 2 hours each class
- Average section size is 80 students
- 2 instructors, 3 to 4 GLA's, 1 ULA
- MiniLectures offered
- Testing available Monday through Friday
- Personalized “On Track” Calendars



PreCollege Algebra Design

- 12 Modules & 3 Exams
- Test Out Exams first week
- Complete Learning Guide
- Personalized Homework
- Practice Quiz
- Quiz
- Retake Plan

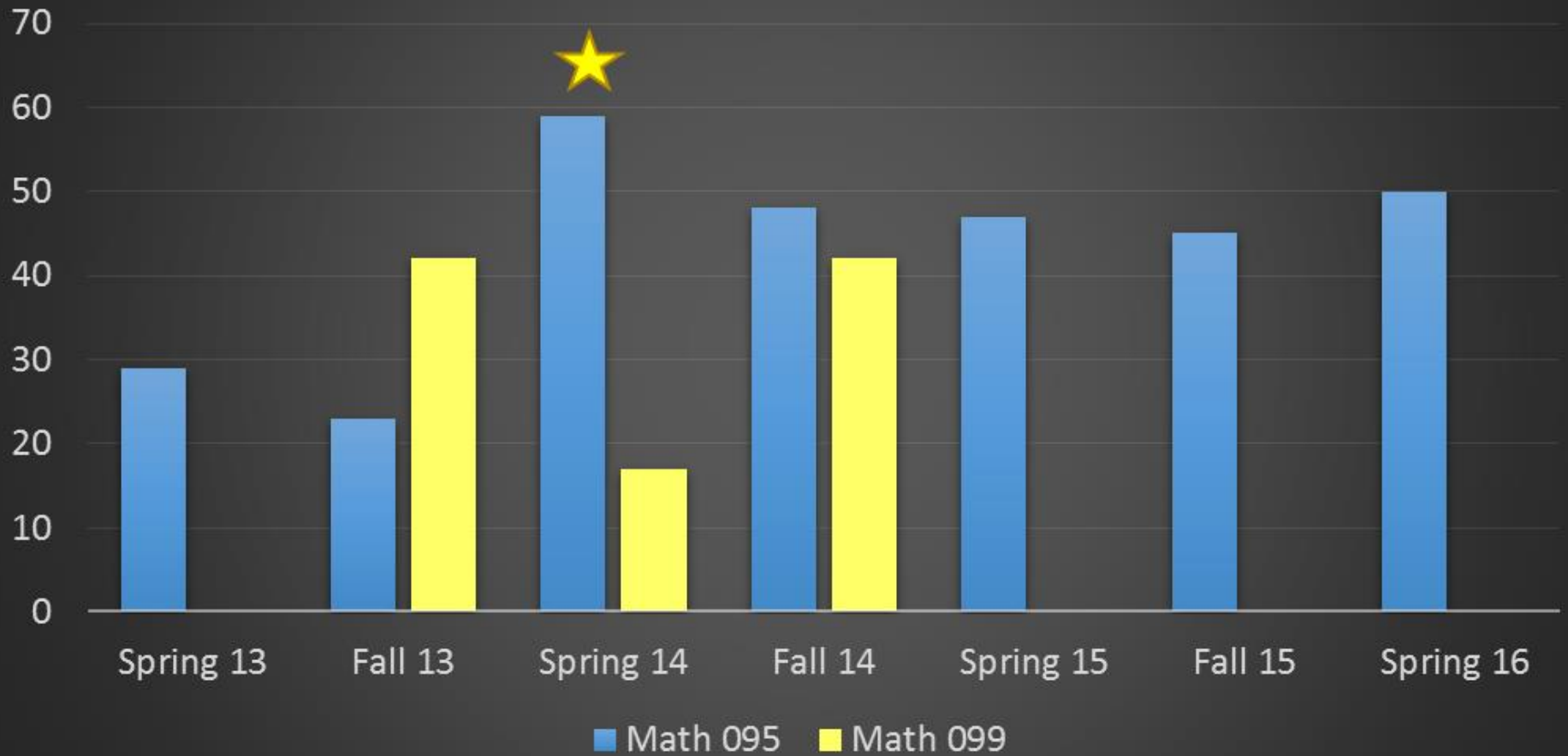


PreCollege Algebra Policies/Data

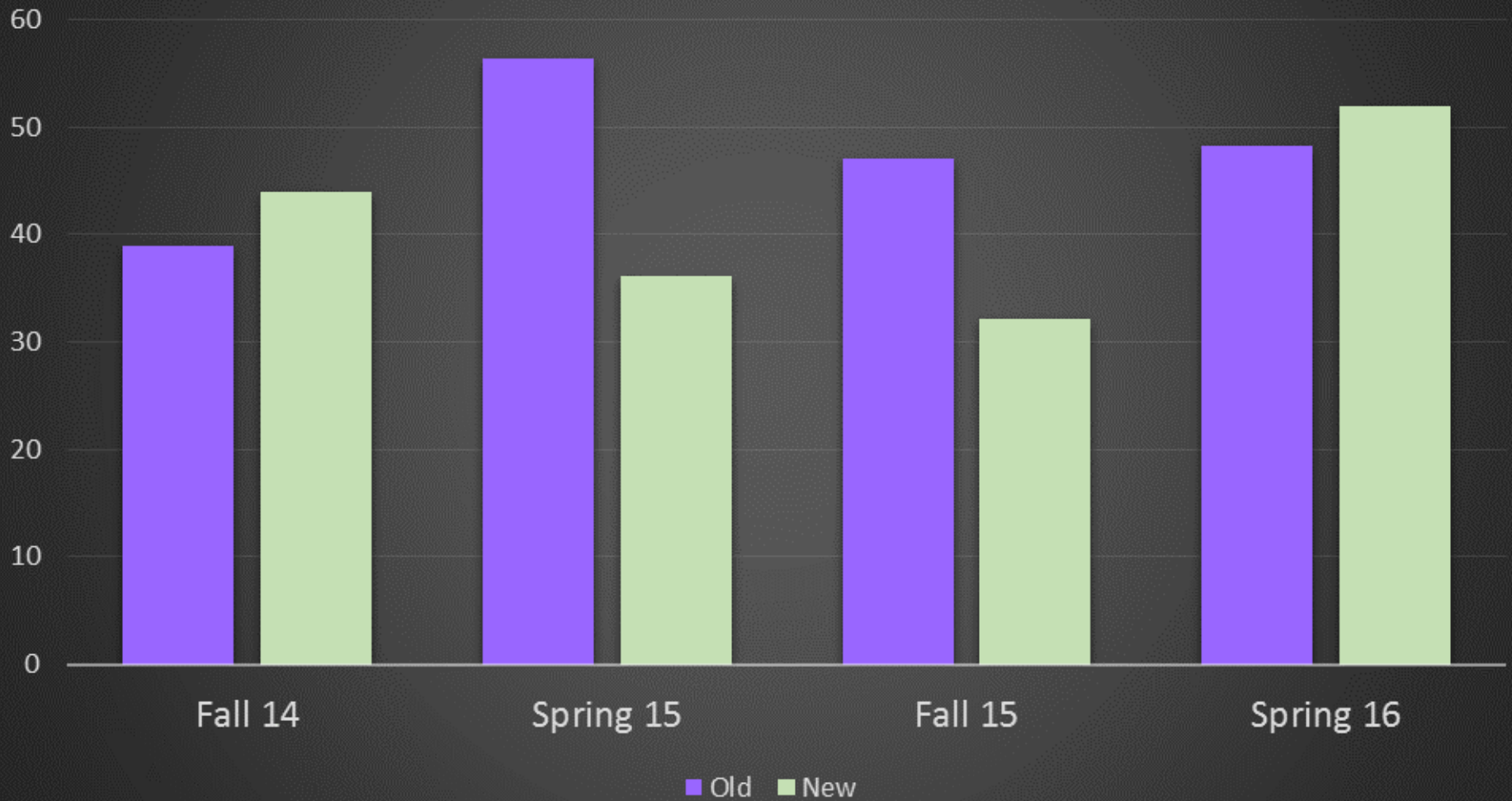
- Attendance Policy
- Math 099 Enhanced PreCollege Algebra
- Overall Completion Rates
- Returners vs First Timers



Completion Percentages

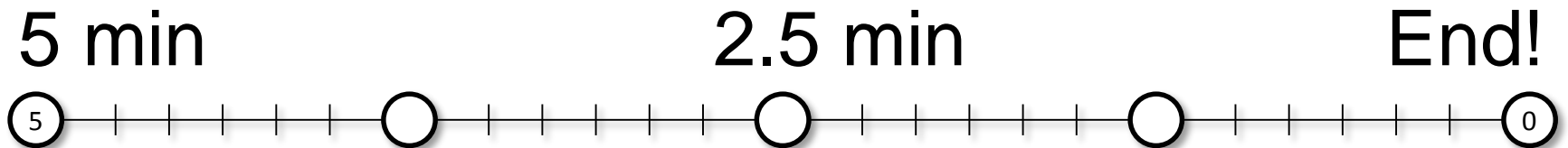


Returners vs 1st Timers



Discussion of Attendance Policies

- Take 5 minutes to discuss with your table attendance challenges at your institution.
 - Do you have an attendance policy? Do you implement other ways to increase student attendance?



About Our College Algebra

- Each Fall, we enroll about 900 on-campus College Algebra students in 3 large lectures.
- Each Spring, we enroll about 600 on-campus College Algebra students in 2 large lectures.
- Average passing (C or better) rate for College Algebra is 60%.



Corequisite College Algebra

College Algebra

- Large lecture
 - Tuesdays and Thursdays
 - Common lectures with note guides
- Recitation
 - Mondays
 - Group work

• Corequisite Lab

- Wednesdays and Fridays
- Learning Guides
- Lab Worksheets (group work)
- Emphasis on Study Skills

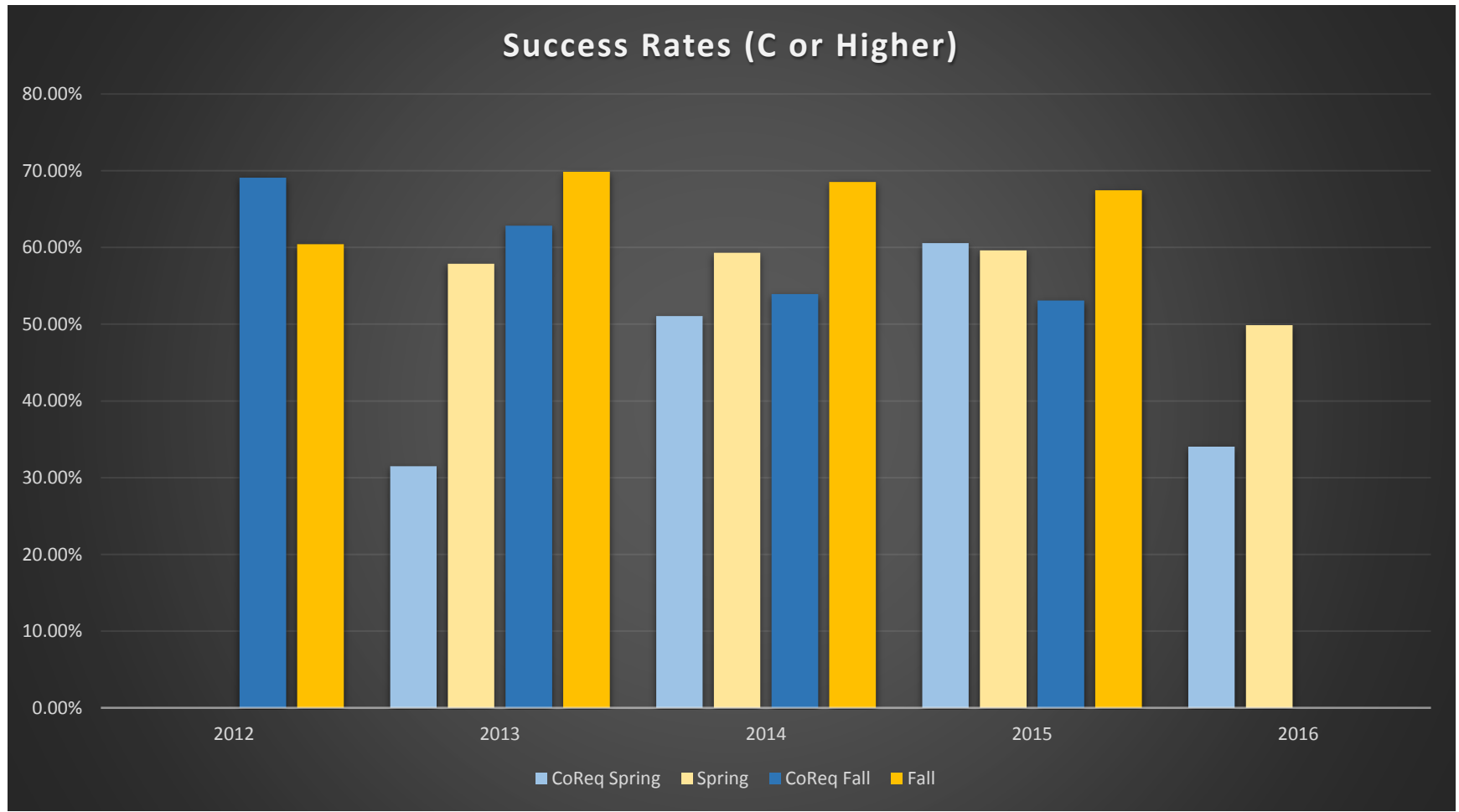


Corequisite College Algebra

- Corequisite students are intermixed with “regular” students for College Algebra.
- Grades from the College Algebra and College Algebra Lab are combined.
- Just-in-time remediation.
- Study skills!



Success Rates



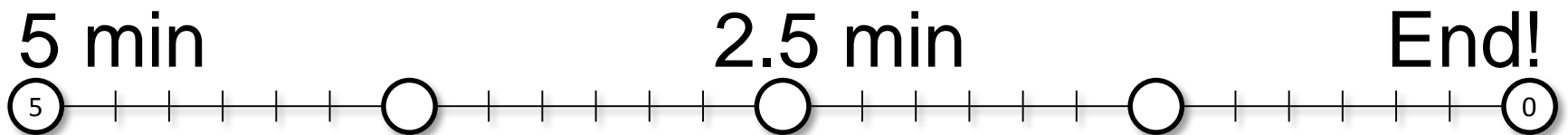
Corequisite Quantitative Literacy

- Very similar format to Corequisite College Algebra
 - Focus on PreAlgebra and Algebra skills needed to pass Junior Proficiency Exam.



Corequisites Discussion

- Take 5 minutes to discuss corequisite courses at your table.
 - Has your institution implemented corequisites? Are you thinking about trying corequisites?



Challenges

- Class sizes
- Difficult to tell what worked
 - A lot of changes happened at once
- BOR requirements
 - Pushing changes before resources/staffing available
 - Placement changes
 - Grading
- Educating advisors and other departments



Support

- Amazing support from administration and department in general
 - Funding
 - Highly collaborative



Changes/Future

- PreCollege Algebra collaborating with First Year Advising
- Quantitative Literacy pathway for PreCollege Algebra?
- Online corequisite College Algebra
- Dual-credit high school students



Questions?

If you have additional questions or would be interested in some sample course materials, contact:

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 - (rebecca.diischer@sdstate.edu)
- Carri Hales
 - (carri.hales@sdstate.edu)



Additional Information About

- [PreCollege Algebra](#)
- [Corequisite College Algebra](#)



PreCollege Algebra

“On Track” Calendar

Math 095 Module 1 – Fall 2016

Monday	Tuesday	Wednesday	Thursday	Friday
August 22	23 First Day of Class Syllabus Quiz Intro Assignment 1.1 & 1.2 Learning Guide	24 1.3 & 1.4 Learning Guide Module 1 Quiz #1	25 1.1 & 1.2 Homework 1.3 & 1.4 Homework	26 Module 1 Practice Quiz
29 Module 1 Quiz #2 1.5 & 1.6 Learning Guide	30 1.7 & 1.8 Learning Guide	31 Last day to Test Out Module 2 Quiz #1 1.5 & 1.6 Homework	Sept 1 Last Day to Add/Drop 1.7 & 1.8 Homework	2 “W” grade begins Module 2 Practice Quiz Module 2 Quiz #2
5 NO CLASS Labor Day	6 2.1 & 2.2 Learning Guide 2.3 Learning Guide	7 Module 3 Quiz #1 2.1 & 2.2 Homework	8 2.3 Homework	9 Module 3 Practice Quiz Module 3 Quiz #2
12 2.4 & 2.5 Learning Guide	13 2.6 Learning Guide Module 4 Quiz #1	14 2.4 & 2.5 Homework	15 2.6 Homework	16 Module 4 Practice Quiz Module 4 Quiz #2
19	20	21	22	23



Additional Info About Coreq. College Algebra

- Each class has about 90 students
 - 1 Instructor
 - 4 GTAs
 - Students work in groups of 5
- [Detailed Schedule](#)



Coreq. College Algebra Schedule

Math 102 with Math 092L Fall 2016 Tentative Schedule

- ❖ All **102 homework and 102 quizzes** are due at 8:00 AM on their scheduled dates unless stated otherwise.
- ❖ All **092L homework and quizzes** are due at 11:59 PM on their scheduled dates unless stated otherwise.
- ❖ All **activities** are completed in recitation and **labs** are completed in 092L lab.

Monday	Tuesday	Wednesday	Thursday	Friday
Aug 22 – First recitation in Biostress 024! Intro Activity Due	23 – First lecture in Rotunda D! (SLO 2) Section 1.AT Notes	24 – First 092L lab! Syllabus Quiz Due Getting Ready HW Due Mod 1 LG, Lab 1, HW Due	25 (SLO 2, 3) Section 1.1 Notes	26 1.AT HW Due Mod 1 Lab 2 Due Mod 1 Quiz Due
29 1.1 Homework Due 1.AT & 1.1 Activity Due	30 (SLO 1, 2) 1.AT & 1.1 Quiz Due Section 1.3 Notes	31 Mod 2 LG & Lab 1 Due Mod 2 HW Due	Sep 1 – Last day to add/drop! Section 1.4 Notes (SLO 1, 3)	2 1.3 Homework Due Mod 2 Lab 2 Due Mod 2 Quiz Due
5 NO CLASS Labor Day	6 (SLO 1, 3) 1.3 Quiz Due Section 1.4 Notes	7 Mod 3 LG & Lab 1 Due Mod 3 HW Due	8 (SLO 1, 2, 3) Section 2.1 Notes	9 1.4 Homework Due Mod 3 Lab 2 Due Mod 3 Quiz Due
12 2.1 Homework Due 1.3 – 2.1 Activity Due	13 (SLO 1, 2, 3) 1.4 & 2.1 Quiz Due Section 2.3 Notes	14 Mod 4 LG & Lab 1 Due Mod 4 HW Due	15 (SLO 1, 2, 3) Section 2.4 Notes	16 2.3 Homework Due Mod 4 Lab 2 Due Mod 4 Quiz Due
19 2.4 Homework Due Test 1 – 6:30 AM!	20 (SLO 1, 2) Section 3.AT Part 1	21 Mod 5 LG & Lab 1 Due	22 (SLO 1, 2) Section 3.AT Part 2	23 3.AT Part 1 HW Due Mod 5 Lab 2 Due



Wednesdays

- Module learning guide due at start of class.
 - Study skills
 - PreCollege Algebra skills needed that week for College Algebra
 - eText and YouTube videos
- Lab 1 completed in groups
 - Study skills
 - Problems
 - Explain why/ Identify the mistake..
- Module 1 homework due online that night.



Fridays

- Lab 2 completed in groups
 - Highlights how the module concepts were used in College Algebra that week.
 - Reviews module and College Algebra concepts learned that week.
- Module quiz due online that night.

