



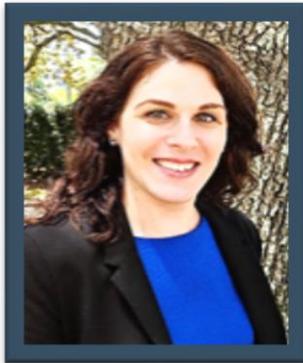
# Florida Student Success Center Webinar: Mathematics Workgroups

Welcome to today's webinar. We will start in a few minutes.  
Please join us by phone: 1-510-338-9438    Access code: 623 056 580

June 14, 2018



## Today's Speakers



**Naomi Sleep**  
Executive Director,  
Student Success Center



**Eric Godin**  
Associate Vice Chancellor,  
Research and Analytics



**Carrie Henderson**  
Executive Vice  
Chancellor

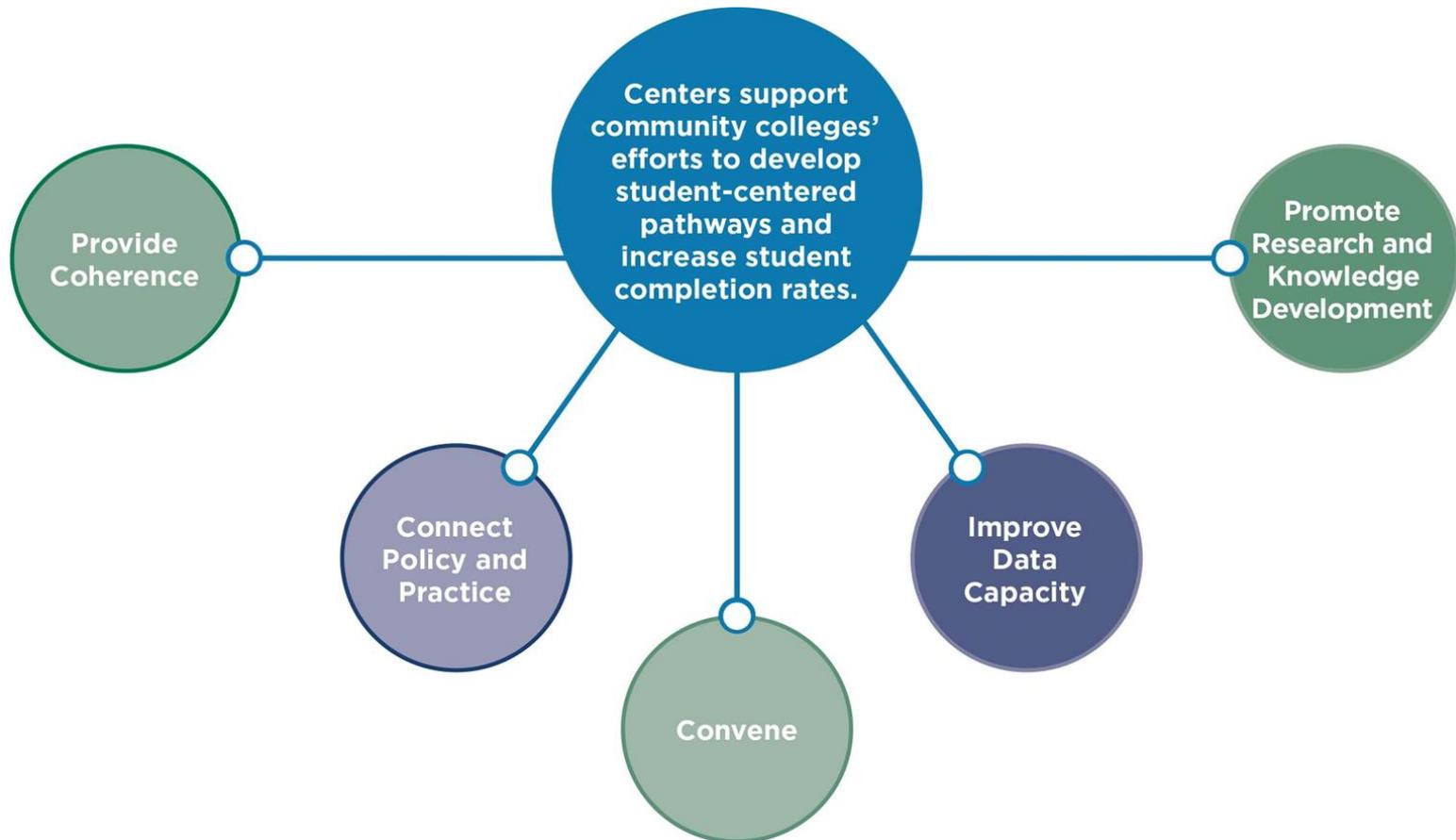
## Our Role and Vision

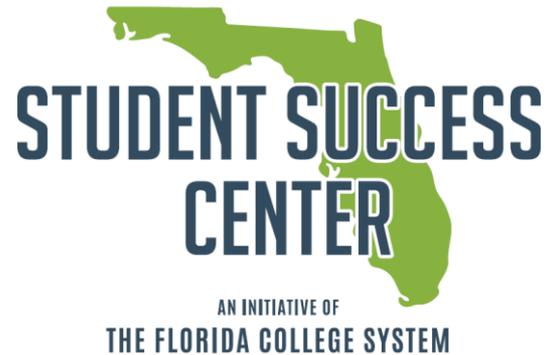
- The role of the Florida Student Success Center is to support institutional initiatives that improve college completion rates and promote student success.
- The vision of the Florida Student Success Center is to *serve as a resource of evidence-based, innovative practices and timely information for colleges.*

## What Are Student Success Centers

- A statewide organization that supports community colleges' efforts to develop **student-centered pathways** and increase student **completion rates**
- Help colleges **align priorities**, integrate **student success efforts**, **maximize resources** and present a **collective voice** of practitioners in policy discussions
- Part of a national network and learning community promoting **best practices, peer collaboration and professional development**

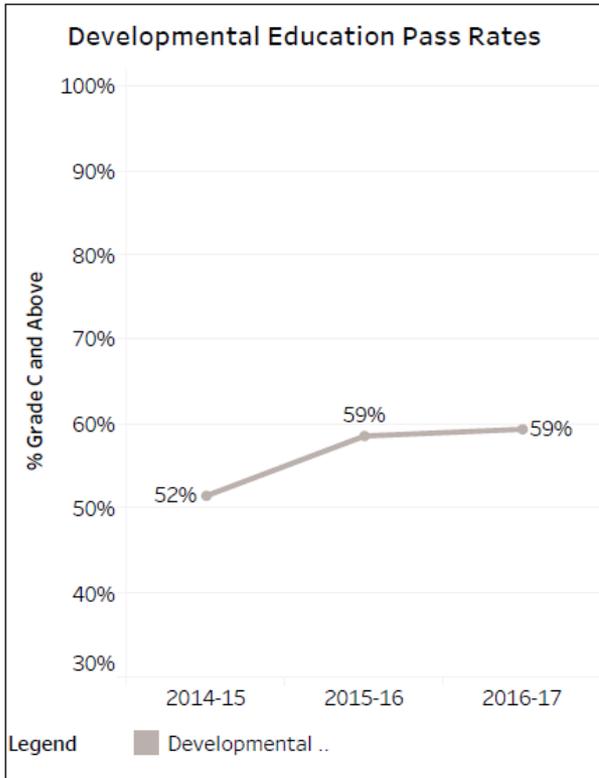
# The Role of Statewide Student Success Centers





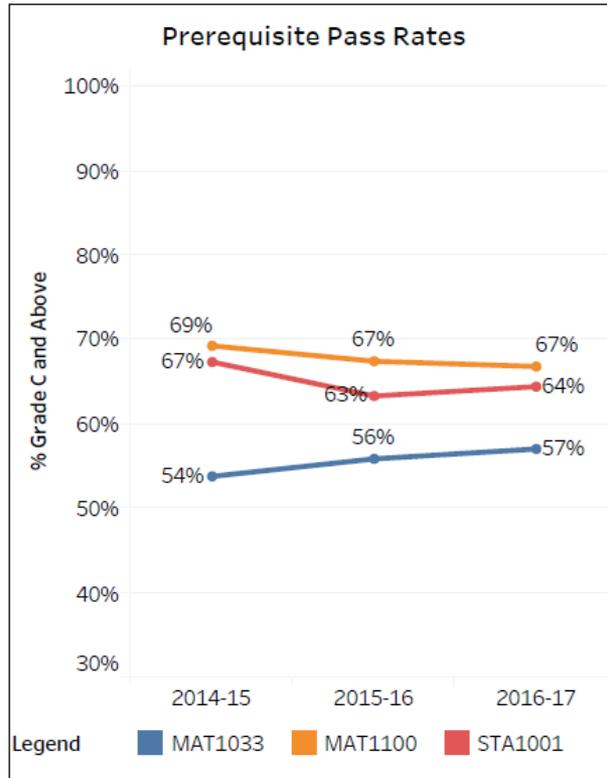
# What We Know about Mathematics Pathways and Student Success in the Florida College System

# FCS Course Pass Rates and Enrollment



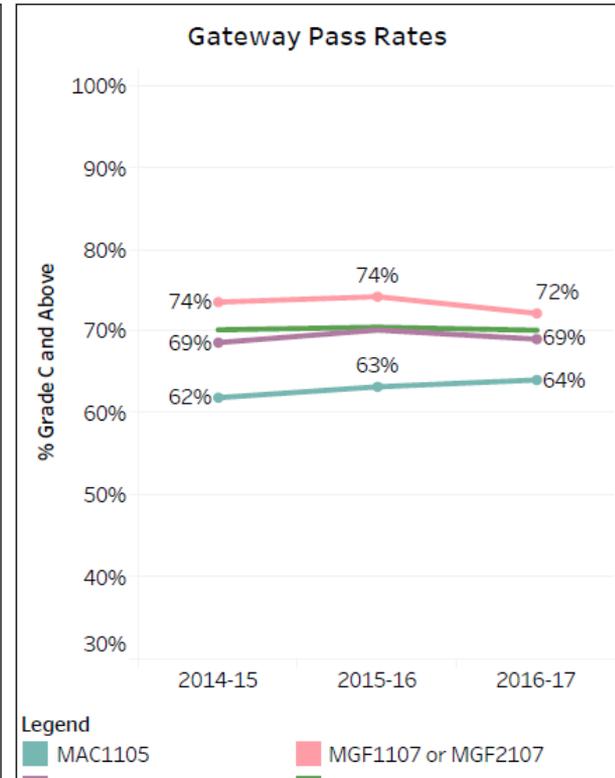
### Developmental Education Enrollment

	2014-15	2015-16	2016-17
	69,324	65,337	55,005



### Prerequisite Enrollment

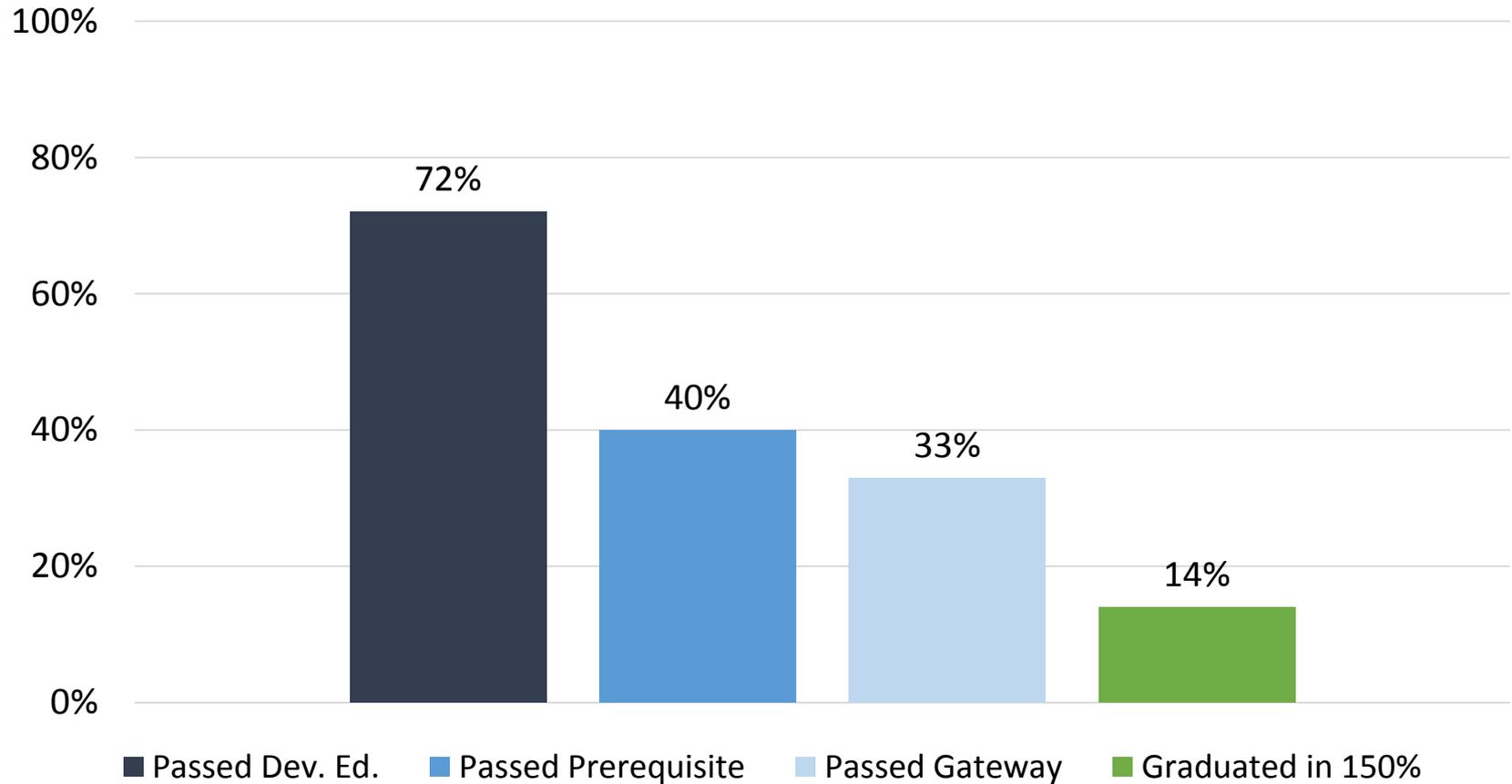
Course	2014-15	2015-16	2016-17
MAT1033	112,513	102,992	95,112
MAT1100	1,501	2,901	4,291
STA1001	711	4,101	4,333



### Gateway Enrollment

Course	2014-15	2015-16	2016-17
MAC1105	90,986	104,135	100,041
MGF1106 or MGF2106	25,688	35,446	35,725
MGF1107 or MGF2107	11,500	15,337	16,225
STA2023	53,344	69,375	68,883

# First Mathematics Course: Developmental Education



\* Cohort includes First-Time, Full-Time (FTIC) students in Fall 2014, enrolled in an Associates in Arts Program, and enrolled in developmental education. Bars indicate the progression of the student in mathematics within 3-years.

# Center for Postsecondary Success

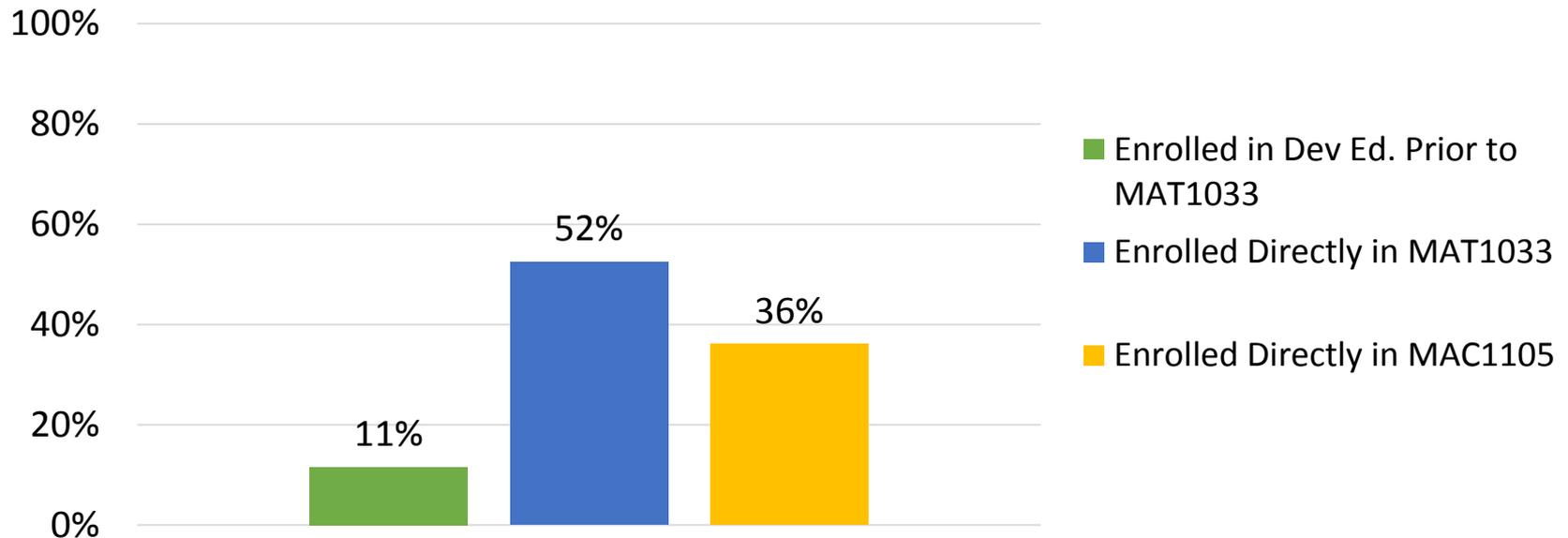
- Collaboration between the Florida College System and Center for Postsecondary Success at Florida State University
- Studied a series of related topics concerning student pathways through:
  - Intermediate Algebra (MAT1033)
  - College Algebra (MAC1105)
  - Degree completion

<https://www.floridacollegesystem.com/sites/www/Uploads/SSC/CPSmathpathwaysRev.pdf>

*The research reported here was supported by the Institute of Education Sciences, U.S. Department of Education, through Grant R305A160166 to Florida State University, and in part by a grant from the Bill & Melinda Gates Foundation. The opinions expressed are those of the authors (Toby Park and Shouping Hu) and do not represent views of the Institute or the U.S. Department of Education, or the Gates Foundation.*

# Sample

- Data for analysis consisted of Fall 2014 FTIC, Associate in Arts (AA) degree-seeking students with complete high school records who enrolled in MAC1105 at one of the FCS campuses, a total of 13,151 students.



## Main Findings

- Nearly one-fifth (19.2%) of students did not enroll in a math course during their first three years in college. When they did enroll, it was common for students to enroll in developmental education (DE), MAT1033, or MAC1105 in the fall semester and then never enroll in another math class.
- We found ***no evidence*** that taking MAT1033 as a prerequisite increased the likelihood of passing the gateway course.
- For some students, taking MAT1033 as a prerequisite to one of the gateway courses may actually ***decrease*** the likelihood of passing the gateway course.
- For some students, enrolling in MAT1033 was associated with a ***lower*** likelihood of earning a degree within two years.

# Predicted Probability of Passing MAC1105 – Based on Initial Course Enrollment

Table 1: Predicted Probability of Passing MAC1105

	No Pre-req.	MAT1033	MAT1033 and DE
All students	62.34%	41.85***	33.64%***
Students below gateway placement	54.52%	39.43%***	33.97%***
Students placing into MAT1033	62.50%	43.55%***	n/a

*Note. Stars indicate whether changes in MAT1033 exposure are statistically significant compared to taking no prerequisites. \*\*\*  $p < .001$ .*

# Predicted Probability of Passing MAC1105 – Based on MAT1033 Grade

Table 2: Predicted Probability of Passing MAC1105

	No Pre-req.	Took/Passed MAT1033	Took/Failed MAT1033
All students	62.92%	58.21%***	41.38%***
Students below gateway placement	53.88%	n/a	38.31%***
Students placing into MAT1033	62.52%	n/a	44.15%***

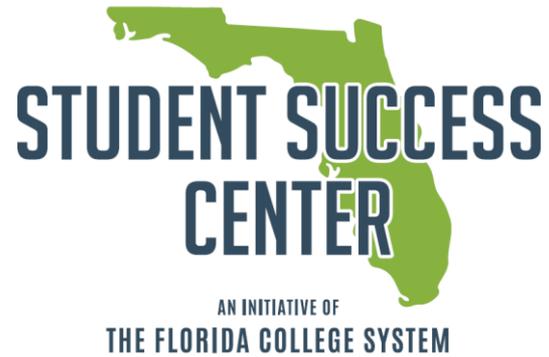
*Note. Stars indicate whether changes in MAT1033 exposure are statistically significant compared to taking no prerequisites. \*\*\*  $p < .001$ .*

# Degree Attainment Within Two Years

Table 3: Predicted Probability of Earning a Degree within Two Years and Exposure to MAT1033 as a Prerequisite

	No Pre-req.	MAT1033	MAT1033 and DE
Earned Degree	8.3%	4.67%***	2.20%***

*Note. Stars indicate whether changes in MAT1033 exposure are statistically significant compared to taking no prerequisites. \*\*\*  $p < .001$ .*



# Mathematics Workgroups

# Charge, Values & Deliverables

## Charge

Explore complex issues surrounding mathematics pathways to prepare: high school students for transition into Florida College System institutions; Florida College System students for success in gateway courses aligned to their programs; and Florida College System students for transition into four-year universities.

## Guiding Values

Transparency, collaboration, respect, diversity, evidence-based inquiry

## Deliverables

- 1) Cataloging evidence-based best practices designed for scale
- 2) Developing recommendations for state policy and institutional policy and practice around mathematics re-design

# Mathematics Workgroups

## *High School to College Alignment*

**Explore how high school curriculum in mathematics aligns with postsecondary expectations**

- Clarify college entrance-requirements alignment with high school assessments and courses
- Examine longitudinal student data on mathematics sequencing and student success rates
- Engage high school and college mathematics faculty in dialogue about postsecondary expectations
- Identify strategies that promote greater alignment

## *FCS Mathematics Sequences*

**Examine multiple pathways for students to enter based on programs of study as well as the re-design of course structures to maximize support for students**

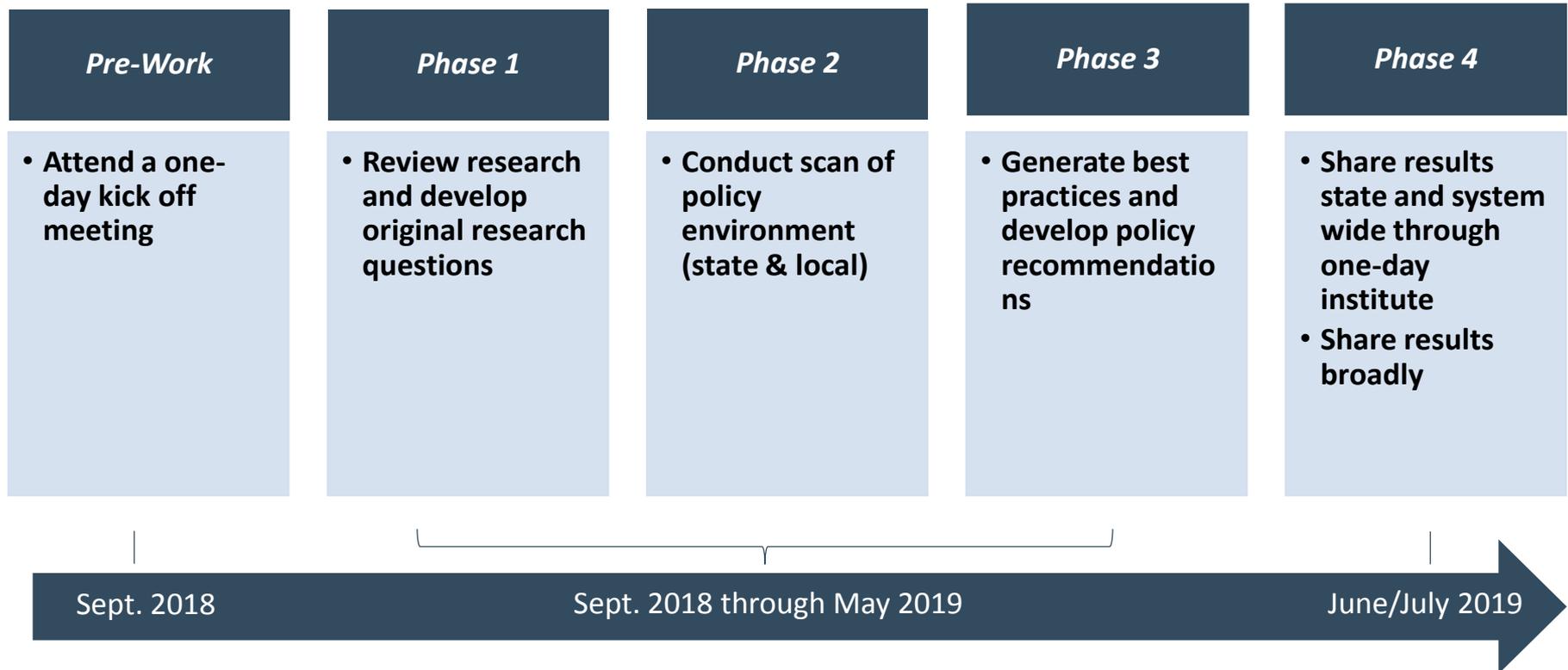
- Identify course and institutional structures that promote and deter success
- Encourage the modernization of mathematics content
- Review data on student success across algebra and non-algebra pathways
- Identify a sequence of courses in the context of a student's intended transfer major/meta-major

## *FCS to University Alignment*

**Examine how FCS curriculum in mathematics aligns with university expectations, particularly for students in transfer programs**

- Clarify university mathematics requirements
- Examine the longitudinal student data on mathematics sequencing and student success rates
- Engage FCS and SUS mathematics faculty in dialogue about postsecondary expectations
- Identify strategies that promote greater alignment

# Activities & Timeline



## Workgroup Participants

- Share **expertise, skills and insight** with a statewide network of experts in mathematics
- Receive opportunities for ongoing **professional development** and **networking** to increase Florida's understanding of mathematics alignment and **informing best practices and state policy**

## Workgroup Roles & Resources

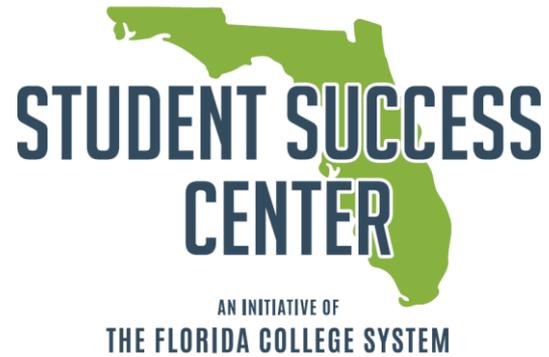
- **Staff Liaison** – FLDOE staff members who will connect workgroups with technical assistance, document the work, etc.
- **Chairperson(s)** – College faculty member who will lead the workgroups
- **Members** – ~12 faculty and administrators per workgroup representing the FCS, K-12 and universities (where appropriate) who will conduct the work
- **Subject Matter Experts** – SME's who will provide research and policy background information to inform the workgroups in phases 1-2

# Workgroup Expectations

September 2018	Attend an in-person one-day orientation and kick-off meeting
September 2018 – May 2019	Participate and engage in monthly virtual meetings
June 2019	Attend an in-person one day institute in June 2019
Monthly Activities	Engage in readings, research and other related activities contributing to workgroup roles and responsibilities (Estimated 6-8 hours per month)

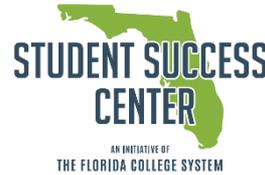
## Next Steps

- Interest Survey (Deadline: June 19, 2018):  
<https://www.surveymonkey.com/r/WF6DN7X>
- Workgroup selection (summer 2018)
- Kick-off meeting (September 2018)
- Opportunities for engagement and updates (Ongoing)



# Mathematics Resources

# Student Success Center Website



[www.floridacollegesystem.com](http://www.floridacollegesystem.com)

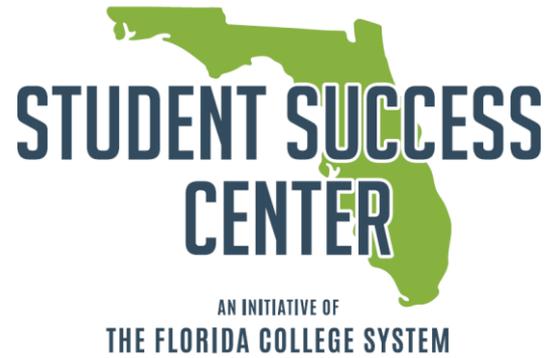
The screenshot shows the top navigation bar of the Florida College System website. The logo 'THE Florida COLLEGE SYSTEM' is on the left. A search bar with 'Search' and a 'Go »' button is on the right. A 'Quick Links' dropdown menu is also present. Below the navigation bar, the 'Success Center' menu item is highlighted with a red arrow. The main content area features a breadcrumb trail 'Home » Success Center » Guided Pathways' and a large banner image. The banner image shows a man and a woman sitting at a desk, looking at documents. To the right of the image is the 'STUDENT SUCCESS CENTER' logo with a green outline of Florida and the text 'AN INITIATIVE OF THE FLORIDA COLLEGE SYSTEM'. Below the banner, the heading 'Guided Pathways' is displayed, followed by a paragraph of text: 'The following outlined resources are to help Florida College System institutions explore implementing guided pathways and mathematics pathways redesign. This section includes guided pathways information'.

[www.floridacollegesystem.com](http://www.floridacollegesystem.com)

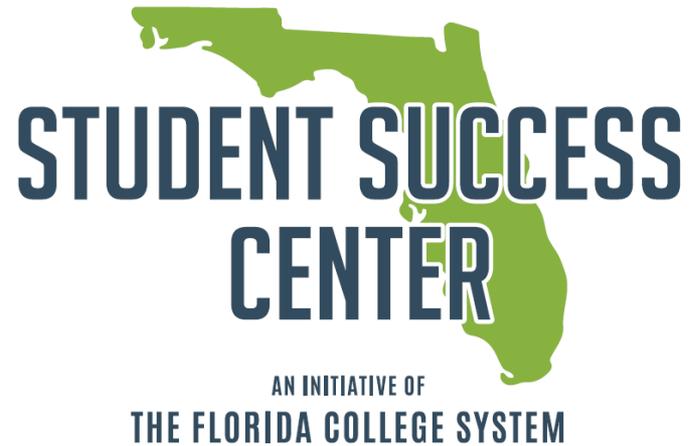
# Resources

## Mathematics Pathways Resources

- **Center for Postsecondary Success-Mathematics Pathways in the Florida College System**: A recent Center for Postsecondary Success report (February 2018) investigated math pathways by examining Associate in Arts (AA) students' course taking behavior and success in Intermediate Algebra (MAT1033) and College Algebra (MAC1105), as well as their degree completion in the Florida College System. The report did not find evidence that taking MAT1033 as a prerequisite to MAC1105 increased the likelihood of passing the gateway course (MAC1105), and for some students taking MAT1033 as a prerequisite may actually decrease the likelihood of passing the gateway course. Further, the report found that enrolling in MAT1033 was associated with a lower likelihood of earning a degree within two years, a result of additional coursework beyond the minimum AA requirements.
- **Florida College System Mathematics Workgroups**: The role of the Florida Student Success Center is to support institutional initiatives that improve college completion rates and promote student success. Mathematics pathways redesign and content alignment is a primary initiative in 2018-2019. The mathematics workgroups resource provides a framework of the three inter-connected workgroups who will focus on 1) high school to college mathematics alignment, 2) Florida College System mathematics alignment and 3) Florida College System to university mathematics alignment. The workgroups will collaborate to identify current challenges in mathematics pathways and develop policy and practice recommendations to improve student achievement across education systems.
- **Dana Center Mathematics Pathways Implementation Guide**: An interactive resource that applies the guided pathways work to implementing and scaling mathematics pathways based on the Dana Center Mathematics Pathways model. The guide walks faculty and staff through the four stages of implementation from getting started, planning, implementing and continuous improvement.
- **Dana Center Mathematics Pathways - Strategies and Considerations for Co-requisite Supports**: This resource outlines considerations for discussion among mathematics faculty, advisors, administrators, and financial aid staff as institutions design co-requisite model(s) that best serve their institution and its students.



## Q & A



[www.floridacollegesystem.com](http://www.floridacollegesystem.com)

