Florida Mathematics Re-Design Update

November 1, 2018

Join us by phone: 1-866-901-6455 Access Code: 520-090-281

Florida Department of Education fldoe.org

The Florida College System

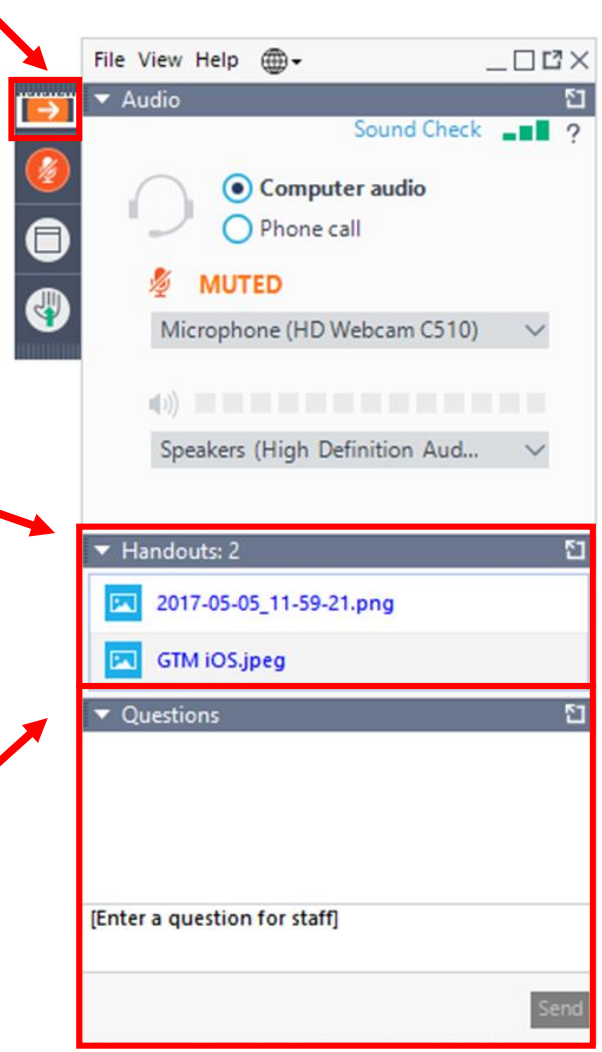
Student Success Center — An Initiative of The Florida College System

State University System of Florida — Board of Governors

www.floridacollegesystem.com

Webinar Logistics

Participants will be on mute for the duration of the webinar.



Material from today's webinar:

In the handouts area you will find a copy of today's presentation.

How to submit questions:

To submit questions during the webinar, please utilize the Questions function. During the Q&A portion of the webinar, questions will be addressed.

Agenda

- Florida Student Success Center
- Mathematics Workgroups
- Milestone Updates
- Resources
- Q&A

STUDENT SUCCESS CENTER

AN INITIATIVE OF
THE FLORIDA COLLEGE SYSTEM

Florida Student Success Center

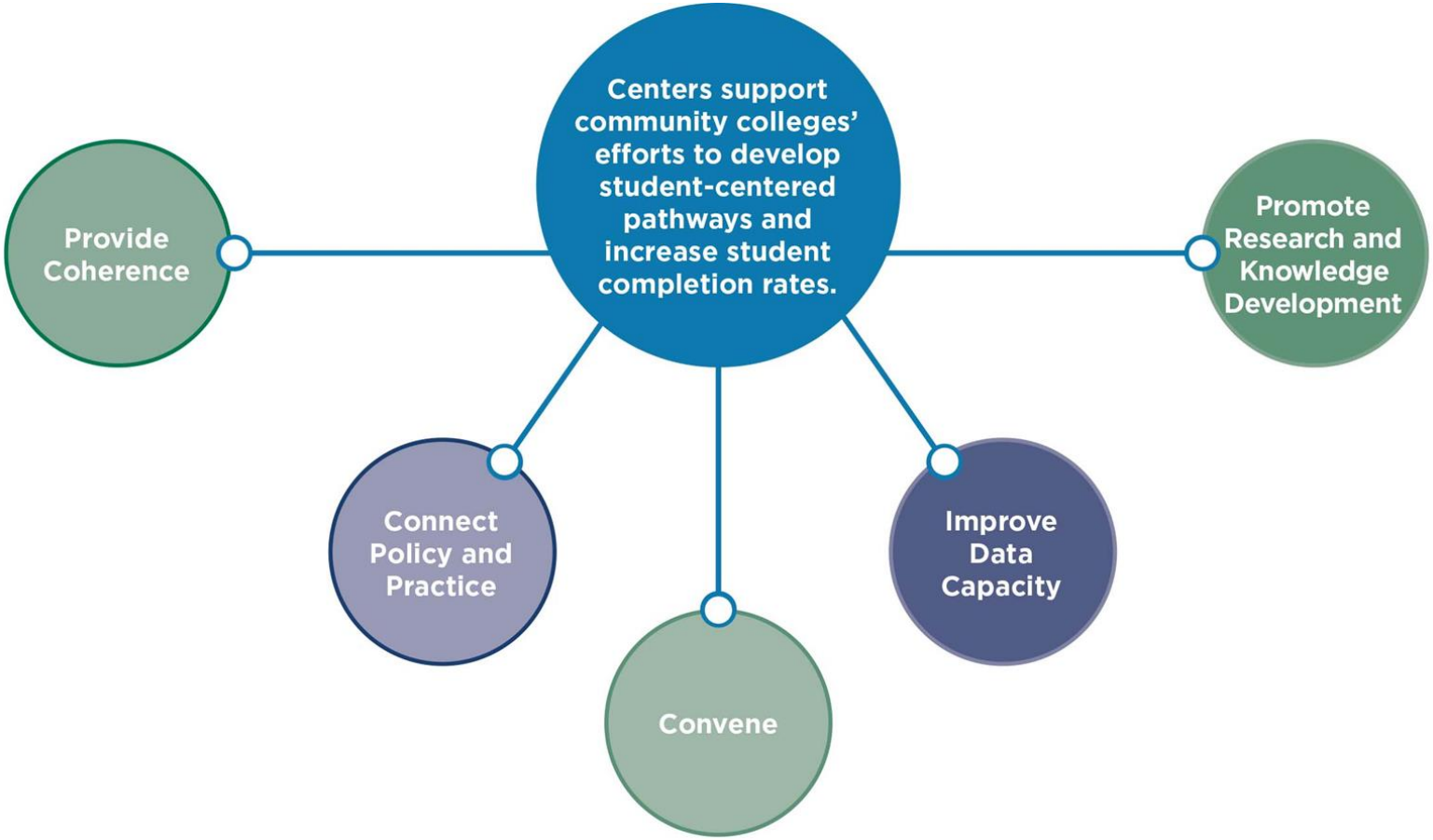
Florida Student Success Center's Role and Vision

- 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.**

Pillars of Statewide Student Success Centers



STUDENT SUCCESS CENTER

AN INITIATIVE OF
THE FLORIDA COLLEGE SYSTEM

Mathematics Workgroups

Why Focus on Mathematics?

- Nationally, hundreds of thousands of students **fail** higher education math courses each year.
- Math is the most **significant academic barrier** to postsecondary attainment—particularly for **students of color.**
- To ensure that all students achieve momentum to earn a college degree, we must **work together** to redesign pathways and courses, modernize content and instruction and eliminate barriers.
- To that end, Florida high school, college and university faculty are collaborating on a statewide initiative to **close achievement gaps** and improve **student success in mathematics**.

Source: Dana Center Mathematics Pathways

Mathematics Workgroups

High School to Postsecondary 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

Charge, Values & Deliverables

Charge

Explore complex issues surrounding mathematics pathways to prepare: high school students for transition into postsecondary; 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 practices designed for scale
2) Developing recommendations for state policy and institutional policy and practice around mathematics re-design

Workgroup Expectations

September 18, 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)

Members

- ~28 faculty and administrators per workgroup representing K-12, Florida College System and State University System

- ~40 members at-large who will engage through newsletters and webinars and submit feedback in the collection of evidence-based practices and policy recommendations

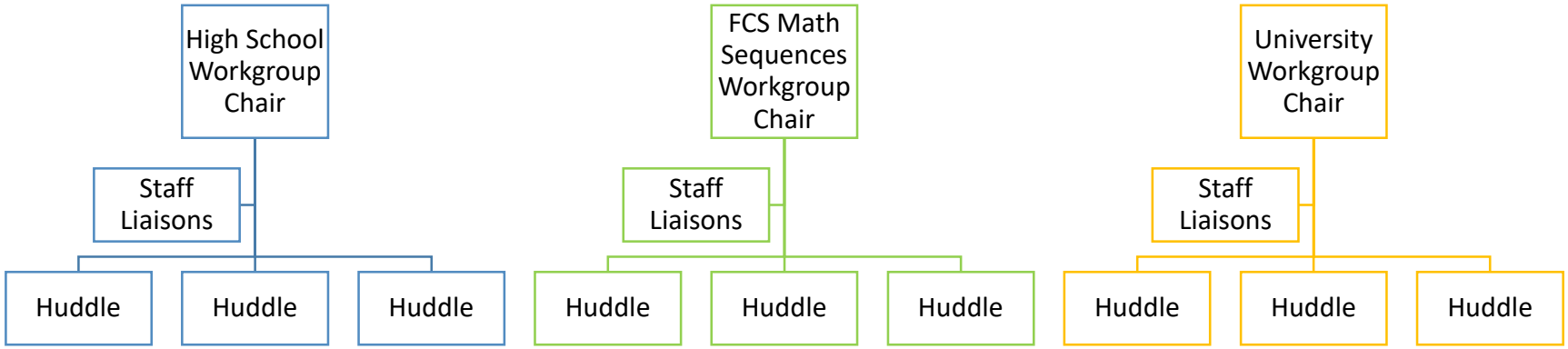
Workgroup Chairs

Professor Cynthia McGinnis
Northwest Florida State College
Chair: High School to Postsecondary Alignment

Dr. Julie Phelps
Valencia College
Chair: FCS Mathematics Sequences

Dr. Tommy Minton
Seminole State College of Florida
Chair: College to University Alignment

Workgroup Structure



STUDENT SUCCESS CENTER

AN INITIATIVE OF
THE FLORIDA COLLEGE SYSTEM

Deliverables

"BEGIN WITH THE END IN MIND"

Covey 1989

Deliverables

Policy Recommendations	Evidence-Based Practices
Milestone 6 *April 2019*	
What is the strategy? Why does this recommendation need to be implemented? What resources are needed? Who needs to be involved?	What is the practice? Is this a best, promising or innovative practice? Where has this practice been implemented? What is the evidence of success? Can this practice be replicated in other settings?

Milestones

Defining the Challenges	Prioritizing the Challenges	Gathering Information	Linking Challenges & Solutions	Prioritizing Solutions	Policy Recommendations & Evidence-Based Practices
Milestone 1 *Complete*	**Milestone 2** *Complete*	**Milestone 3** *Nov. 2018*	**Milestone 4** *Jan. 2019*	**Milestone 5** *Feb. 2019*	**Milestone 6** *April 2019*
Administer survey to on key challenges & synthesize findings	Prioritize the challenges and assign members to huddles—smaller working groups	Identify factors contributing to challenges, evidence & drivers or root causes	Brainstorm & evaluate potential solutions to the challenges previously identified	Propose and prioritize formal recommendations	Identify policy recommendations and evidence-based practices

STUDENT SUCCESS CENTER

AN INITIATIVE OF
THE FLORIDA COLLEGE SYSTEM

Milestone 1: Defining the Challenges

Purpose of the Survey

- To gain perspectives about the challenges with implementing mathematics re-design and pathways across:
  - high school to postsecondary
  - FCS mathematics sequences
  - college to university alignment
- To inform the work of the Florida Mathematics Re-Design Workgroups

Methodology & Data Collection

- Open-Ended:
  - What are the challenges with implementing mathematics pathways as it relates to 1) high school to postsecondary alignment, 2) FCS mathematics sequences, and 3) college to university alignment? 4) Comments
- Coding:
  - Responses were inductively coded using sampling and re-coding (manually)
  - Independent-coder method & peer debriefing/checking were used to validate codes

Methodology & Data Collection

- Survey sent to members of Florida Mathematics Re-Design Workgroups (n=117)
  - high school to postsecondary
  - FCS mathematics sequences
  - college to university alignment
  - at large
- Response rate of 47.9%

Results

Graduation Requirements Skip Mathematics Linear Equations
Pathways Education Math Course Choice Level
Algebra 2 Challenge Enrollment Math Classes Goals
Communication Teaching

High School

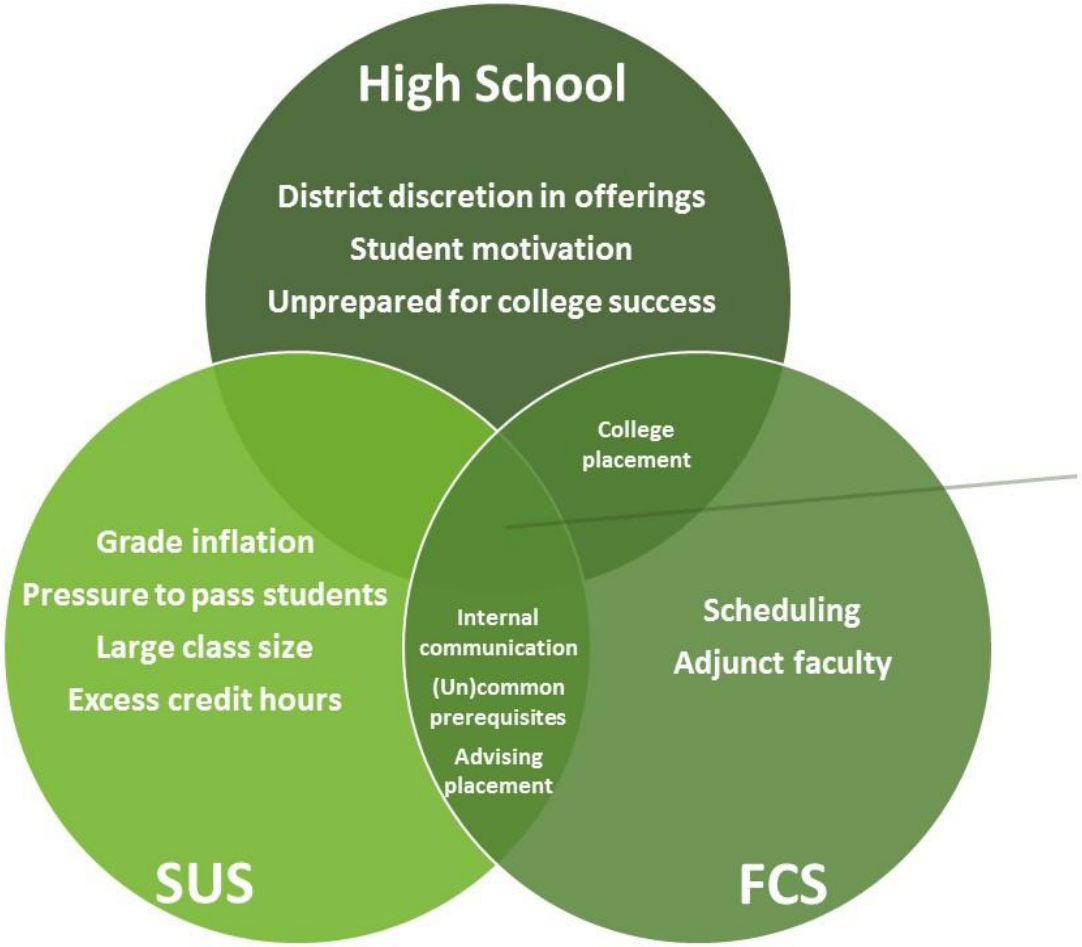
Prepared Teaching Biggest Challenge Relationship Appropriate
Abilities Skills Decisions Mathematics Educational Goals
Math Course Developmental Courses Institution
High School Sequence Aware Placed Difficult Correct Scheduling
Advisers

FCS Math Sequences

Alignment Prepared College Algebra Business Transfer
Topics Covered Pathways Financial Aid Require
University System Math Courses Transition
University Level Professors Communication Consistent Taken

University

Identifying Commonalities



Shared

Ambiguity in sequencing

Student indecision re: college or program

Misalignment/ miscommunication between systems

No algebra alternatives

One-size-fits-all pedagogy

Lack of fundamental understanding of math

STUDENT SUCCESS CENTER

AN INITIATIVE OF
THE FLORIDA COLLEGE SYSTEM

Milestone 2: Prioritizing the Challenges

Prioritization Exercise Objective

- To identify the top challenges related to mathematics pathways re-design implementation the workgroup will focus on throughout the year
- For each challenge identified, the workgroup created huddles
- Huddles are small working groups that will do the deeper dive of gathering information about the challenges and identifying potential solutions.

Huddles

High School to Postsecondary Alignment	*FCS Mathematics Sequences*	*FCS to University Alignment*
Content alignment from elementary to college Professional development for math teachers Advising students into math sequences & career paths Improving fundamental math skills & concepts Assessment of students	Foundation preparedness Multiple sequences/pathways Ambiguity of math sequencing resulting in content overlap Placement, advising misplacement & single measure of college readiness Revisit prerequisites for commonality	Communication about desired math outcomes for degree programs Alignment of course content Advising of math pathways Aligning prerequisites for courses between institutions

Huddles

High School to Postsecondary Alignment	*FCS Mathematics Sequences*	*FCS to University Alignment*
Content alignment from elementary to college	Foundation preparedness	Communication about desired math outcomes for degree programs
Professional development for math teachers	Multiple sequences/pathways	Alignment of course content
Advising students into math sequences & career paths	Ambiguity of math sequencing resulting in content overlap	Advising of math pathways
Improving fundamental math skills & concepts	Placement, advising misplacement & single measure of college readiness	Aligning prerequisites for courses between institutions
Assessment of students	Revisit prerequisites for commonality	

Highlighted = overlap

STUDENT SUCCESS CENTER

AN INITIATIVE OF
THE FLORIDA COLLEGE SYSTEM

Milestone 3: Gathering Information

Milestone 3

- **Purpose:** This template guides discussion among huddles to clearly define the challenges associated with addressing the problems previously identified by the workgroups with implementing mathematics pathways. The template helps ensure a thorough discussion and provides a way to organize information that will be gathered by the Huddle Leads and presented to the workgroups.
- **Suggested Completion Date:** November 2018
- **Instructions:**
  - Huddles should complete the *Template for Gathering Information.*
  - Huddle Leads should share the completed template with the workgroup chair for feedback by TBD.
  - Huddle Leads should share on the workgroup webinar scheduled for TBD.

STUDENT SUCCESS CENTER

AN INITIATIVE OF
THE FLORIDA COLLEGE SYSTEM

Next Steps for Workgroups

STUDENT SUCCESS CENTER

AN INITIATIVE OF
THE FLORIDA COLLEGE SYSTEM

Resources

www.floridacollegesystem.com

Resources

Mathematics Pathways Resources

- **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.

- **Cuyumaca College's Leading the Way on Transforming Remediation**: This report highlights Cuyumaca College's efforts to address issues with remediation since 2010. Three changes frame the college's work including recognizing students' high school work in course placement, replacing one-size-fits-all remedial courses with math pathways and teaching math through active strategies.

- **Complete College America - Co-Requisite Remediation: Spanning the Completion Divide**: A 2016 Complete College America report highlighting the impact of co-requisite remediation work on student success in Georgia, West Virginia, Tennessee, Indiana, and Colorado. The report also provides a blueprint for colleges to build their own co-requisite remediation program based on six identified pillars.

Resources

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 of the Florida Student Success Center to increase student success rates. To achieve this goal, mathematics and statistics faculty, administrators and key stakeholders will participate in inter-connected workgroups to align mathematics content and pathways that best prepare students for their intended academic and career goals.

Workgroups' Charge, Values & Deliverables

Charge

Explore complex issues surrounding mathematics pathways to prepare: high school students for transition into FCS institutions; FCS students for

Guiding Values

. Transparency
. Collaboration
. Respect
. Diversity

Deliverables

1) Cataloging evidence-based best practices designed for scale

2) Developing recommendations

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 postsecondary 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.

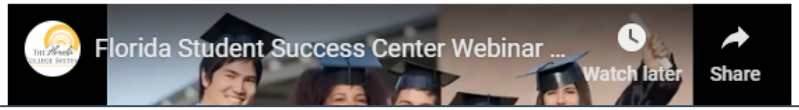
Mathematics Newsletters

April 2018

October 2018

Mathematics Webinars

- **Florida Student Success Center Webinar: Mathematics Workgroups - June 14, 2018**



STUDENT SUCCESS CENTER

AN INITIATIVE OF
THE FLORIDA COLLEGE SYSTEM

Q&A