Florida Mathematics Re-Design Workgroups
Milestone & Template Toolkit

Contents:

Note: Contents of this toolkit were adapted from the University of Texas at Austin, Dana Center Mathematics Pathways, State-Level Math Task Force Toolkit. Updated 2/11/2019

Florida Mathematics Re-Design Workgroups – Summary of Milestones

Milestones	Activity	Description	Recommended Completion Date
Milestone 1	Defining the Challenges (Pre-Work)	Administer survey to solicit workgroup feedback on key challenges related to mathematics re-design	Prior to kickoff meeting
Milestone 2	Prioritizing the Challenges	Prioritize the challenges and assign members to huddles	Kickoff meeting September 18, 2018
Milestone 3	Gathering Information	Complete *Template for Gathering Information*	January 2019
Milestone 4	Linking Challenges and Solutions	Complete *Template for Brainstorming Solutions*	February 2019
Milestone 5	Prioritizing Solutions	Prioritize solutions through survey	March 2019
Milestone 6	Drafting Policy & Practice Recommendations	Complete *Template for Policy and Practice Recommendations* and *Template for Best Practices* (optional)	May 2019
Milestone 7	Share Recommendations & Best Practices	Present findings at one-day institute	June 12, 2019

Milestone 1: Defining the Challenges (Pre-Work)

Purpose: This survey is designed to identify the challenges with implementing mathematics pathways. Examples of these challenges may include: long sequences of developmental courses, College Algebra as the default gateway course, problems with transfer and applicability with mathematics courses, lack of communication across stakeholder groups, need for faculty development, etc. This survey will be administered to workgroup participants (high school to postsecondary alignment, FCS mathematics sequences, FCS to university alignment, members at-large) in early September 2018. The results will be summarized into key themes presented at the kickoff meeting in September 2018.

Users: Staff Liaisons and Workgroup Chairs

Suggested Completion Date: Prior to kickoff meeting in September 2018

Instructions:

1. Through a survey instrument, solicit open-ended feedback from key stakeholders about the broad challenges related to mathematics pathways implementation related to high school to postsecondary alignment, FCS mathematics sequences and FCS to university alignment.
2. Code the responses.
3. Summarize and synthesize the feedback into key challenges and present the findings at the kickoff meeting.

Survey Instrument:

Thank you for agreeing to participate in this important survey regarding mathematics pathways re-design in Florida. Through this survey, we will be gaining your perspective, based on your knowledge and experience, about the challenges with implementing mathematics pathways. We will use the open-ended responses to inform the work of the Florida Mathematics Re-Design Workgroups. The results will be shared on a webinar in November 2018 and posted on https://www.floridacollegesystem.com/. All responses are anonymous. We appreciate your input! Please contact FLStudentSuccess@fldoe.org with any questions about the survey.

1. What are the challenges with implementing mathematics pathways as it relates to high school to postsecondary alignment?
2. What are the challenges with implementing mathematics pathways as it relates to mathematics sequences within an FCS institution?
3. What are the challenges with implementing mathematics pathways as it relates to college to university alignment?
4. Comments

Milestone 2: Prioritizing the Challenges

Purpose: This template will help Workgroup Chairs and Staff Liaisons facilitate the workgroup decision-making process of identifying the top (3-5) challenges related to mathematics pathways re-design implementation.

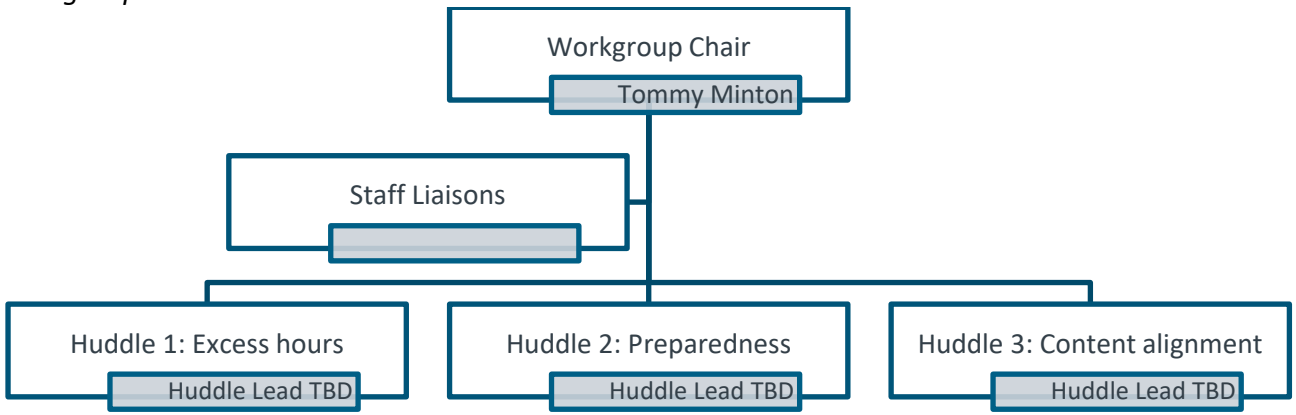
Users: Workgroup Chairs and Staff Liaisons

Suggested Completion Date: Breakout sessions at kickoff meeting on September 18, 2018

Instructions:

1. Workgroup Chairs and Staff Liaisons will share the challenges identified through the survey instrument, ranked in order of frequency from the survey responses (where 1 appears the most frequently in survey responses). The objective of this activity is to educate the participants about the challenges and have a discussion so that participants can exchange thoughts and ask questions. Workgroup chairs will ask participants to consider:
    - Do these challenges seem like they are ranked in the correct order? If not, what order do you think they should be in and why?
    - Are there any factors that may make a particular challenge difficult to implement regardless of its ranking? If so, what criteria may pose a challenge and why?
    - Of the highest ranked issues, are there any you think are not doable and if so, why?
    - Of the lowest ranked issues, are there any you think are doable that we should reconsider?
    - Of the top issues, how many should be mathematics re-design workgroup priorities? (3-5 are the suggested amounts)
2. Assign members to a huddle (small working group) for each challenge. Begin by soliciting volunteers for each huddle. Once the huddles have identified members, ask them to select a Huddle Lead who will be responsible for completing the documents and reporting group progress to the Workgroup Chair.

Example of Workgroup Structure



Template for Huddle Assignments

Workgroup:	Click here to enter text.			
Huddle 1: Click here to enter text.	**Huddle 2:** Click here to enter text.	**Huddle 3:** Click here to enter text.	**Huddle 4:** Click here to enter text.	**Huddle 5:** Click here to enter text.
Huddle Lead: Click here to enter text.	**Huddle Lead:** Click here to enter text.	**Huddle Lead:** Click here to enter text.	**Huddle Lead:** Click here to enter text.	**Huddle Lead:** Click here to enter text.
Huddle Members: Click here to enter text.	**Huddle Members:** Click here to enter text.	**Huddle Members:** Click here to enter text.	**Huddle Members:** Click here to enter text.	**Huddle Members:** Click here to enter text.

Milestone 3: Gathering Information

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.

Users: Huddle Leads and Workgroup Chairs

Suggested Completion Date: January 2019

Instructions:

1. Huddles should complete the *Template for Gathering Information.*
2. Huddle Leads should share the completed template with the workgroup chair for feedback by [workgroup chair will insert date].
3. Huddle Leads should share on the workgroup webinar scheduled for [workgroup chair will insert date].

Template for Gathering Information

Huddle 1 Challenge:	Click here to enter text.		
Factor contributing to the challenge	**Evidence that this factor contributes to the challenge**	**Drivers or root causes of the factor**	**Additional information needed**
Factor 1: Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
Factor 2: Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
Factor 3: Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.

Add additional rows as needed.

Process check: If the factors identified above were resolved, would the overall challenge be eliminated? Why or why not?

Additional information:
Click here to enter text.

Example of Completed Template for Gathering Information

Huddle 1 Challenge:	Problems with transfer and applicability of mathematics courses		
Factor contributing to the challenge	**Evidence that this factor contributes to the challenge**	**Drivers or root causes of the factor**	**Additional information needed**
Factor 1: Mathematics requirements for programs differ from institution to institution.	Anecdotal evidence from group members.	Lack of communication between institutions and discipline faculty. Concerns about rigor of courses other than College Algebra.	Gather information about mathematics requirements across institutions. This might be part of the task force recommendations if it cannot be done quickly.
Factor 2: Students go into College Algebra even when quantitative reasoning or statistics is consistently accepted for their program.	State data show that high percentage of students in liberal arts programs take College Algebra.	Advisors see College Algebra as the "safe bet." Students self-advise, take College Algebra because it is the most familiar to them.	Group members will talk to advisors at their colleges to verify how students decide which mathematics course to take.

Milestone 4: Linking Challenges and Solutions

Purpose: This template supports discussion among huddle and workgroup members to brainstorm and evaluate potential solutions to the challenges previously identified in the *Template for Gathering Information*.

Users: Huddle Leads and Workgroup Chairs

Suggested Completion Date: February 2019

Instructions:

(*Prior to this activity, challenges should have been defined and documented, including supporting evidence and an examination of any underlying causes.)*

1. Huddles should complete *Template for Brainstorming Solutions* as preparation for their working group discussion.
2. Huddle Leads should share the completed template with the workgroup chair for feedback by [workgroup chair will insert date].
3. Huddle Leads should share on the workgroup webinar scheduled for [workgroup chair will insert date].

Template for Brainstorming Solutions

Factors that contribute to the overall challenge were identified in the *Template for Gathering Information*. Consider how the solutions address the factor contributing to the challenge.

Huddle 1 Challenge:	Click here to enter text.		
Factor contributing to the challenge	**Promising solutions (strategies to address this factor)**	**Advantages/disadvantages of solutions**	**Examples where solutions have been implemented (if any)**
Factor 1: Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
Factor 2: Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
Factor 3: Click here to enter text.	Click here to enter text.	Click here to enter text.	

Process check: Has at least one solution been identified for each factor listed?

Additional information:
Click here to enter text.

Florida Mathematics Re-Design Workgroups
Milestone 4: Brainstorming Solutions Supplemental Information

Factors that contribute to the overall challenge were identified in the *Template for Gathering Information*. Consider the following checklist related to how the solutions address the factor contributing to the challenge.

Checklist

1. **<u>For each identified factor, please consider:</u>**

☐ *What are the promising solutions/strategies to address this factor?*
All huddle members clearly understand the identified solutions and agree they are promising strategies to address the previously identified challenges.

☐ *What are the advantages/disadvantages of the solutions/strategies being proposed?*
Huddles weigh the potential advantages and disadvantages of each solution proposed, paying attention to components such as cost, time, feasibility, effect on students, institutions or teachers/faculty members who will be involved in the implementation, and ability to scale, among others. Consideration is given to solutions where potential advantages outweigh potential disadvantages.

☐ *If solutions have been implemented in other places, what is the evidence of success?*
Huddles identify specific examples of where the solutions have previously been implemented, noting any data or evidence that speaks to the effectiveness of the proposed solution. For new solutions, huddles consider leading indicators that could indicate potential effectiveness.

2. **<u>As you work to identify each solution and prepare for prioritization, please consider:</u>**

☐ *Do we understand the problems we are trying to solve?*
All huddle members clearly understand the overall problems the workgroups are trying to solve and the challenges that have been identified that contribute to the problems.

☐ *Do we understand the proposed solutions?*
All huddle members have an opportunity to understand and ask questions about the proposed solutions.

☐ *Does each challenge have a solution?*
Huddles have at least one solution for each factor identified.

☐ *Are other huddles working on similar challenges/solutions?*
Huddles identify other huddles that may be working on similar solutions for communication and potential collaboration.

Milestone 5: Prioritizing Solutions

Purpose: This resource is intended to help Workgroup Chairs and Staff Liaisons plan an effective and inclusive process to prioritize the solutions that will inform the task force's formal recommendations.

Users: Workgroup Chairs and Staff Liaisons

Suggested Completion Date: March 2019

Instructions: Prioritizing solutions is a critical step in the process of defining the workgroup and huddle recommendations. To affect real change, the recommendations must be bold and visionary as well as practical and achievable. The recommendations must also focus the efforts of stakeholders across the state on high-impact strategies. Be mindful that recommendations do not become a "laundry list" of every possible solution—such a list would dilute the potential impact of collective and focused action.

The process of prioritizing solutions should allow for equal input from all workgroup members and guard against dominance by a few members with strong opinions.

This resource provides support in two forms:

1. A checklist to guide thinking about essential components of your process for prioritizing solutions.
2. Suggestions for different approaches to the process.

Checklist

Preparing for prioritization:

- ☐ **Do we understand the problems we are trying to solve?**

  All workgroup members clearly understand the overall problems the workgroups are trying to solve and the challenges that have been identified that contribute to the problems.

- ☐ **Do we understand the proposed solutions?**

All workgroup members have an opportunity to understand and ask questions about the proposed solutions, including the associated advantages and disadvantages identified by huddles.

Process of prioritization:

☐ **Does the prioritizing process allow for individual input?**

Every workgroup member is able to give input on which solutions should be prioritized in some systemized way other than large-group discussion.

After the prioritization:

☐ **Who is responsible for synthesizing the responses?**

The Workgroup Chairs and Staff Liaisons synthesize the input to:

- Identify high consensus items.
- Identify items with overlap or connections that should be combined.
- Identify items for which more information is needed.
- Identify items on which there is no consensus and more discussion is needed.

☐ **Do the solutions identified as priorities address the problems?**

The Workgroup Chairs and Staff Liaisons conduct an analysis to ensure the prioritized solutions will address the identified problems and challenges.

Suggestions for Process

- **Voting:** Each workgroup member gets a number of votes to use for solutions addressing each challenge. For example, if there are four identified challenges, each member can vote for three solutions within each of the four categories. Send the list of proposed solutions to workgroup members and have them submit votes in a survey.
- **Simple rating system:** Each workgroup member rates the proposed solutions within each category. A further option is to have the workgroup members then identify the top three or four solutions across all categories. This process is most easily done with a survey listing the solutions and with a place for rating; rating can be done remotely.

- **Weighted rating system:** Each workgroup member has a certain number of points to divide among the solutions within a category. This rating approach provides a way to show a strong preference among solutions. For example, each member assigns the solutions a percentage so the total for a category is 100%. Members have the option to assign 0% to a solution. Same as simple rating system.

Florida Mathematics Re-Design Workgroups
Milestone & Template Toolkit

Template for Prioritizing Solutions

Workgroup: *(insert workgroup name)*	
Huddle *(insert huddle number)* Challenge:	***Insert Huddle Challenge***
Factor contributing to the challenge	**Ranked Huddle Proposed Solutions**
Factor 1: Click here to enter text.	Click here to enter text. Click here to enter text. Click here to enter text.
Factor 2: Click here to enter text.	Click here to enter text. Click here to enter text. Click here to enter text.
Factor 3: Click here to enter text.	Click here to enter text. Click here to enter text.

Florida Mathematics Re-Design Workgroups
Milestone 5: Prioritizing Solutions Supplemental Information

Prioritizing solutions is a critical step in the process of defining the workgroup and huddle recommendations. To affect real change, the recommendations must be bold and visionary as well as practical and achievable. The recommendations must also focus the efforts of stakeholders across the state on high-impact strategies. Be mindful that recommendations do not become a "laundry list" of every possible solution—such a list would dilute the potential impact of collective and focused action. The process of prioritizing solutions should allow for equal input from all huddle members and guard against dominance by a few members with strong opinions.

Consider the following checklist as you prioritize your solutions.

Checklist

1. **<u>The process of prioritization:</u>**

☐ *What criteria will we use to inform our list of prioritized solutions?*
Huddles develop criteria that are important for the listed solutions. Examples of typical criteria include:
   a. Frequency: How frequent is the problem? Does it occur often or only on rare occasions?
   b. Importance: What are the most important problems?
   c. Cost: What is the cost?
   d. Time: How much time will it take to implement/affect change?
   e. Ease of Implementation: What is the process of implementation?
   f. Feasibility: How realistic is it that we can resolve the problem? Will it be easy or difficult?
   g. Overlap: Is there potential to group similar solutions into one solution?
   h. Other criteria determined by the huddle.

☐ *What process will we use for prioritization?*
Prior to beginning, huddles agree on the process they will use to identify the priorities. Staff liaisons are available to assist with any desired technology that might facilitate the prioritization process, including webinars, SurveyMonkey and Poll Everywhere. In determining the process, every huddle member is able to give input on which solutions should be prioritized in some systemized way other than large-group discussion. Suggestions of potential processes include:

- **Voting:** Each huddle member gets a number of votes to use for solutions addressing each challenge. For example, if there are four identified challenges, each member can vote for three solutions within each of the four categories.
- **Simple rating system:** Each huddle member rates the proposed solutions within each category. A further option is to have the huddle members then

identify the top three or four solutions across all categories. This process is most easily done with a survey listing the solutions and with a place for rating; rating can be done remotely.

- **Weighted rating system:** Each huddle member has a certain number of points to divide among the solutions within a category. This rating approach provides a way to show a strong preference among solutions. For example, each member assigns the solutions a percentage so the total for a category is 100%. Members have the option to assign 0% to a solution. Same as simple rating system.

2. **<u>After the prioritization:</u>**

☐ *Do the solutions identified as priorities address the problems?*
Work with your huddle members and Workgroup Chair to ensure the prioritized solutions will address the identified problems and challenges.

☐ *Did you assign a huddle member to complete the* Prioritizing Solutions Template*?*
Work with your huddle members and Workgroup Chair to ensure the Prioritizing Solutions Template is completed.

Milestone 6: Drafting Policy & Practice Recommendations

Recommendations

Purpose: The *Template for Policy & Practice Recommendations* helps translate the workgroups' proposed solutions into formal recommendations by helping the authors communicate concise information to describe the solution, explain the importance of the solution in improving student success and identify who is responsible for taking action.

Users: Workgroup Chairs, Huddle Leads and Huddle Members

Suggested Completion Date: April- Early May 2019

Instructions:

1. Huddle Leads should assign an individual to each recommendation. Each person will complete the *Template for Policy & Practice Recommendations* for his or her assigned recommendation and share with the Huddle Lead by [workgroup chair will insert date].
2. Once the individual has completed the template, the Huddle Lead will ask other huddle members review and offer input by [workgroup chair will insert date].
3. The Huddle Lead will present to full workgroup for review by [workgroup chair will insert date].

(Optional) Practices

Purpose: The Florida Student Success Center is interested in publishing best practices as it relates to mathematics innovation, redesign and pathways. If you would like to submit a best practice, please do so by completing the *Template for Best Practices*. The *Template for Best Practices* is designed to capture examples of cutting edge, emerging, promising and best practices in mathematics pathways re-design.

Users: Workgroup Chairs, Huddle Leads and Huddle Members

Suggested Completion Date: April- Early May 2019

Instructions for Drafting Best Practices:

1. Workgroup Chairs should solicit workgroup members to document best practices through the *Template for Best Practices* for his or her assigned workgroup by [workgroup chair will insert date]. This process can be completed at any point throughout the year.
2. Once the individual has completed the template, the Workgroup Chairs should share with others to review and offer input by [workgroup chair will insert date].
3. The Huddle Lead will submit the best practices by [workgroup chair will insert date].

Template for Policy and Practice Recommendations

Recommendation (1 imperative statement)	**Click here to enter text.**
Is this a policy or a practice* recommendation?	☐ Policy ☐ Practice
Is this an institutional (local) or state effort?	☐ Institutional (local) ☐ State
What is the strategy? 1-2 bullets describing the "what" (i.e., solution).	• Click here to enter text.
Why does this recommendation need to be implemented? 1-2 bullets explaining "why" this recommendation needs to be implemented and the impact it will have.	• Click here to enter text.
What resources are needed? 1-2 bullets identifying the resources needed.	• Click here to enter text.

**Optional: The Florida Student Success Center is interested in publishing best practices as it relates to mathematics innovation, redesign and pathways. If you would like to submit a best practice, please do so by completing the Template for Best Practices.*

Example of Completed Template for Recommendations

Recommendation (1 imperative statement)	Institutions should implement a co-requisite strategy for mathematics support.
Is this a policy or a practice recommendation?	☒ Policy ☐ Practice
Is this an institutional (local) or state effort?	☒ Institutional (local) ☐ State
What is the strategy? 1-2 bullets describing the "what" (i.e., solution).	• Integrate support directly with credit-bearing courses. Institutions should not simply cover intermediate algebra in the first half of the term and mathematics modeling or quantitative reasoning in the second half of the term. • Focus remediation only on topics necessary for success in credit-bearing course; 1-2 hours of support.
Why does this recommendation need to be implemented? 1-2 bullets explaining "why" this recommendation needs to be implemented and the impact it will have.	• Failure rates in college algebra exceed 30% system-wide in the fall and 40% in the spring term. • Models in Tennessee, Maryland, and other states demonstrate that underprepared students are more likely to complete gateway courses with co-requisite, just-in-time support.

What resources are needed?
1-2 bullets identifying the resources needed.
	• The University System of Georgia will seek Academic Catalog Management System (ACMS) endorsement of the co-requisite strategy.
	• Establish an Ad Hoc Steering Committee to begin working immediately to:
	  ○ Review co-requisite models in Georgia and in other states to identify a small number of recommended models, including information about the number and type of credits offered, staffing, student population, and financing.
	  ○ Build co-requisite curricular materials to provide just-in-time support to students.
	  ○ Identify common course numbers for support courses/lab components.

	• Develop resources for advisors for placing students in co-requisite support models.

Template for Best Practices

Name of Practice
Click here to enter text.

Type of Practice

☐ **Best practice**: a method or technique that has been proven to help institutions reach high levels of efficiency or effectiveness and produce successful outcomes. Best practices are evidence-based and proven effective through objective and comprehensive research and evaluation.

☐ **Promising practice:** a method or technique that has been shown to work effectively and produce successful outcomes. Promising practices are supported, to some degree, by subjective data (e.g., interviews and anecdotal reports from the individuals implementing the practice) and objective data (e.g., feedback from subject matter experts and the results of external audits). However, promising practices are not validated through the same rigorous research and evaluation as best practices.

☐ **Innovative practice**: a method, technique, or activity that has worked within one institution and shows promise during its early stages for becoming a promising or best practice with long-term, sustainable impact. Innovative practices must have some objective basis for claiming effectiveness and must have the potential for replication among other institutions.

Location/Population (100 word limit)
Describe where this practice has been implemented and its target population.
Click here to enter text.

Practice Overview (500 word limit)
Provide an overview description of the practice. What is the purpose of this practice? Does the practice meet or set new standards or introduce innovative practices?
Click here to enter text.

Results/Evidence (350 word limit)
How is success defined? Share any early signs of success or evidence of this practice's effectiveness.
Click here to enter text.

Replication (350 word limit)
Describe how the practice can be replicated in other settings/target populations. Also, describe any resources that may exist to guide other institutions to adopt this practice.
Click here to enter text.

Additional Information (350 word limit)
Provide any additional information regarding the practice.
Click here to enter text.

Contact Information of Nominator
Click here to enter text.