UW System Math Steering Committee

Fall 2017 Webinar

Meta-majors and math pathways:

Why, what and how

3-3:45 pm, Monday, October 2

UNIVERSITY OF WISCONSIN SYSTEM

Why does our committee matter?

Math = degree completion barrier

- Mismatch of content
- Cost of extra credits
- Time to degree
- Attrition due to long course sequences
- Capacity for students needing college algebra
- Advising challenges
- Transferability

What are the math initiative priorities?

1. Reduce the number of students placed into remedial math courses
2. Improve the success of students in remedial math courses
3. Improve the success of students in their first credit bearing math course
4. Ensure transferability of math courses

What does the math initiative include?

- ✓Implement common cut score
- ✓Increase use of multiple measures for math placement
- ✓Develop and implement meta-majors
- ✓Develop math pathways for each meta-major
- ✓Ensure transferability of math pathways course

What do we mean by these terms?

- Meta-majors
- Math pathways

What is a meta-major?

- Group of individual majors under a larger academic umbrella
- An example: Social and behavioral sciences
  - Psychology
  - Sociology
  - Social Work
  - Education

What is a meta-major?

“Essentially, a meta-major is a designed program of courses that crosses different majors and fields but with similar content—focusing on, say, health sciences or STEM or liberal arts.

“The program creates a clear pathway toward a variety of careers (and majors, UW System would add), but features a level of freedom that gives students ample room for exploration.”

The California State University, September 2016

How do meta-majors help students?

- Help undeclared majors complete relevant gateway math requirement
- Help declared majors take relevant math
- Helps transfer students

What is a math pathway?

A mathematics course or sequence of courses that students take to meet the requirements of their program of study.

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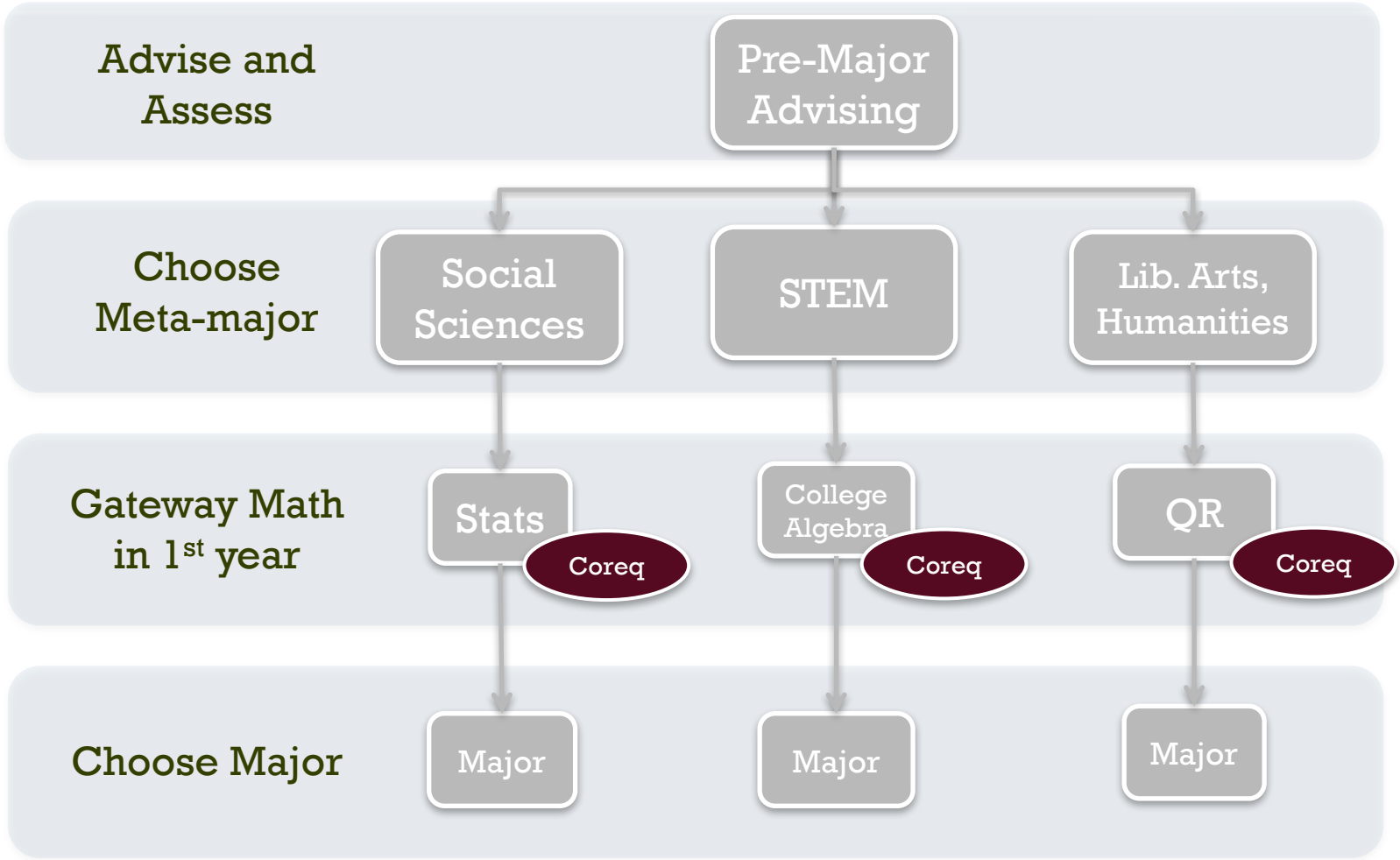
Where are we starting on the math pathway?

- Gateway math required for a meta-major
- UW-Milwaukee example:
  - Math for Literacy Pathway: 92+102 or 103-> Stat 215;
  - Math for Education Pathway: 92+102 or 103 (or 94 allowed though not preferred) -> 175 -> 176;
  - Math for Professionals Pathway: 94+105 or 98+108 -> 211;
  - Math for STEM Pathway: 94+[116->117 or 115 if placement score high enough] -> 231.

A Model Pathway



Adapted from Complete College America 2016
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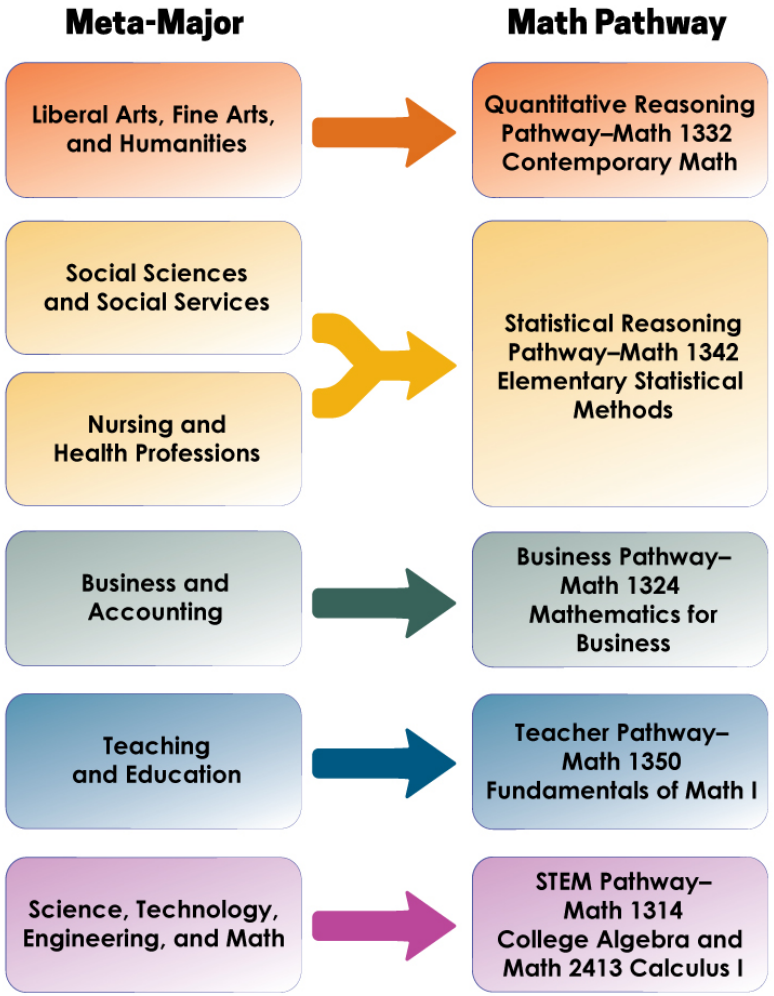
Emerging Texas Math Pathways



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Sample Math Pathways List

Algebra pathway	Quantitative Reasoning (QR) pathway	Statistics pathway
Architecture	Administrative Asst. Specializations	Archaeology
Astronomy	Anthropology	Accounting Specialist or Tech
Environmental Science	Applied Arts and Sciences	Criminal Justice
Psychology (at some colleges)	Applied Behavior Analysis	Dental Hygiene
Biochemistry	Applied Technology and Performance	Ecology for Environmental Science
Biology	Improvement	Environmental Studies or Technology
Business degrees	Art History	Geography
Chemistry	Automotive Technology	GIS
Computer Science	Broadcast Media	Government**
Economics	Classics	Health Promotion**
Engineering degrees	Communications	Health Studies**
Mathematics	Computer Programming	Health Information Technology**
Physics	Culinary Arts	Human Resource Development
Some Education degrees	Dance	Industrial Technology
	Design: Fashion, Interior	Kinesiology
	Development and Family Studies	Management
	Digital Retailing	Medical Laboratory Sciences
	Emergency Admin and Planning	Merchandising

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How will we begin our work?

- Develop common general descriptions and draft learning outcomes for gateway math courses (10am-2pm Nov. 2 meeting)
  - Algebra
  - Quantitative reasoning
  - Statistics
- Check-in for feedback from math departments on the draft descriptions and learning outcomes (3-3:45pm Dec. 4 call)
- Reach consensus on definitions and learning outcomes (10am-2pm Jan. 17, 2018 meeting)

Where will we go next?

Work backwards from vetted common learning outcomes

- Consider transferability of learning outcomes: What are the **core learning outcomes** required for transfer?
- Determine learning outcomes for developmental math
  - Ensure developmental math learning outcomes match criteria on multiple placement measures and serve as pre-requisite for algebra, quantitative reasoning, and statistics
  - Use developmental math learning outcomes when designing co-reqs

The Big Picture: How will this get us to meta-majors?

Based on deconstruction of national models, Math Steering Committee will use a grassroots approach to create a Wisconsin model

- Decide which majors need which gateway course
  - Collect feedback from other departments to determine what set of math learning outcomes best suits their majors
  - Use this feedback to start sorting majors into math pathways
  - Begin defining meta-majors by grouping majors according to math pathway and other commonalities

Your homework prior to Nov. 2 meeting

- Collect syllabi for first credit bearing college algebra, statistics and quantitative reasoning courses
- Provide feedback on “Transfer and Pathways” Sept. 26 email
  - Check spreadsheet tab for your institution
  - Email Carrie Tirel at carrie.tirel@uwc.edu with updates or corrections

Upcoming Meetings

- Nov. 2 MSC meeting in Madison 10 am-2 pm
- Nov. 16 webinar open to all math faculty - UW-Whitewater presents Moving Up program 1-1:45 pm
- Dec. 4 MSC optional phone check-in on learning outcomes feedback collected from faculty 3-3:45 pm
- Jan. 17, 2018 MSC meeting in Madison 10 am-2 pm
- Spring semester webinars TBD
- May 22, 2018 MSC meeting in Madison 10 am-2 pm

Questions?