



UW System Math Initiative

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UW SYSTEM MATH INITIATIVE

Professional Development Virtual Workshop

June 2020

MATH INITIATIVE GOALS

- Increase enrollment in a math course in a students' first year
- Reduce the need for developmental mathematics courses
- Improve success of students in developmental and gateway mathematics
- Ensure transferability and applicability of gateway mathematics

PLENARY – EQUITY IN THE MATHEMATICS CLASSROOM

1-2:30 p.m., Monday, June 1

Gloria Ladson-Billings will lead a session on Equity in the Mathematics Classroom. (See Zoom link in Canvas courses for Math Initiative Co-requisite Development and Active Learning for Equitable Instruction tracks.)

ACTIVE LEARNING FOR EQUITABLE INSTRUCTION TRACK

5 active learning sessions: 10-11:30 a.m. Monday, Wednesday and Friday, June 1-June 10

Workshop closing session: 2-3:30 p.m. Thursday, June 11

Active learning track objectives

- Review active learning guiding principles and experience application in a virtual classroom
- Consider and experience strategies to build community, including in a virtual classroom
- Explore selection and development of problems for meaningful assessments

Active learning session 1, Monday, June 1, 10 -11:30 a.m.: Active Learning Guiding Principles in the Virtual Mathematics Classroom

Focus: April Strom, Jenn Kosiak, and Carrie Tirel will focus on sharing the four guiding principles for active learning, investigating how these principles can be leveraged in the

virtual mathematics classroom, and specifically attending to the principle involving equitable and inclusive practices.

- Students' deep engagement in mathematical thinking
- Peer-to-peer interaction
- Instructors' interest in and use of student thinking
- Instructors' attention to equitable and inclusive practices

Active learning session 2, Wednesday, June 3, 10 -11:30 a.m.: Building Community in the (Virtual) Mathematics Classroom

Focus: Implementing active learning can be challenging in either face-to-face or the virtual classroom. One of the strategies that should be leveraged on Day 1 of the course is the idea of building community among the students and instructor. April Strom, Jenn Kosiak, and Carrie Tirel will focus on strategies for building community early in the virtual mathematics classroom. Participants will discuss:

- Synchronous Instruction
- Asynchronous Instruction (Canvas)
- CCSSMPs 8 mathematical practices, with MP3 and MP6 highlighted

Active learning session 3, Friday, June 5, 10-11:30 a.m.: Experiencing Mathematics in the Virtual Classroom--An Exploration of Exponential Functions

Focus: Thinking about implementing a mathematics activity in the virtual classroom that leverages the guiding principles of active learning? Experience a meaningful activity on exponential functions that can be implemented in the virtual classroom (and in face-to-face classrooms!). Facilitators April Strom, Jenn Kosiak, and Carrie Tirel will model exploration of exponential functions for Intermediate/College Algebra (comparison of multiplicative and linear growth/decay) through:

- Coronavirus activity (exponential growth)
- Compound Interest activity (exponential growth)
- Gamma Tiles activity (exponential decay)

Active learning session 4, Monday, June 8, 10-11:30 a.m.: Assessing Mathematical Knowledge (Part 1)

Focus: April Strom, Jenn Kosiak, and Carrie Tirel will focus on analyzing current assessment tasks given in an Intermediate Algebra and/or College Algebra course. We will have the opportunity to explore question types and discuss ideas for selecting and creating problems for summative and formative assessments.

- Discuss MAA Instructional Practices Guide: Assessment Practices
- Create and select problems for summative assessments
- Reflect on one of your current assessments and work together to create a new assessment

Active learning session 5, Wednesday, June 10, 10-11:30 a.m.: *Assessing Mathematical Knowledge (Part 2)*

Focus: April Strom, Jenn Kosiak, and Carrie Tirel will focus on creating meaningful assessment tasks for Intermediate Algebra and/or College Algebra.

Workshop closing session, Thursday, June 11, 2-3:30 p.m.: Q&A, Next Steps, Reception

Focus: In this final session, participants and facilitators will discuss any lingering specific questions or general concerns, discuss next steps, and “meet” to debrief on workshop and other topics of interest in a virtual reception.

- April Strom, Jenn Kosiak, and Carrie Tirel will be available for additional questions or concerns from 2 to 2:30 p.m.
- Participants from both the co-req and active learning tracks will “meet” in a joint session starting at 2:30 p.m., when Math Initiative Project Director Alice Pulvermacher briefly will discuss next steps and encourage all to complete workshop evaluations.
- The session will remain open until 3:30 p.m. for those who wish to share ideas about the workshop or check in with colleagues from around the state about other topics of interest.

CO-REQUISITE DEVELOPMENT TRACK

4 co-req sessions: 10-11:30 a.m. Tuesday and Thursday, June 2-June 11

Workshop closing session: 2-3:30 p.m. Thursday, June 11

Co-req track objectives

- Review possible structures for co-requisite instruction
- Create outlines for co-requisite course to provide just in time support with a lens on equity
- Explore resources and develop equity-minded instruction materials/support for co-requisite course/s

Co-req session 1, Tuesday, June 2, 10-11:30 a.m.: Discuss Possible Structures for Co-requisite Courses

Focus: Hayley Nathan (College Algebra: CA), Kelly Kohlmetz (Quantitative Reasoning: QR), and Kate Burns (Statistics: Stats) will present a summary of the models/structures that UW institutions are using for co-requisite courses and review the [UW System Fundamental Features of Co-requisite Developmental Math](#) agreed on by the Math Steering Committee.

- Identify strengths and weaknesses of different models
 - How does the model/structure impact the students?
 - Does one model/structure provide better opportunities to support equity in the classroom?
- Consider whether and how the model/structure matters for CA, QR and Stats

Co-req session 2, Thursday, June 4, 10-11:30 a.m.: Principles to Provide Just-in-Time Support in Co-requisite Courses

Focus: Hayley Nathan (CA), Kelly Kohlmetz (QR), and Kate Burns (Stats) will discuss principles that guide their co-requisite course instruction. They will share lessons they've learned along the way and the impact this has on students. They will describe how to approach this work with an equity-minded lens.

- Consider steps to guide development of co-requisite course
- Engage in small group work by each course. Participants should plan to bring syllabi (or drafts) for gateway and pre-req courses to walk through how to unpack the pre-req course and organize material for just-in-time support, including test taking, math anxiety, etc.

Co-req session 3, Tuesday, June 9, 10-11:30 a.m.: Implementation of Just-in-Time Support for a Lesson in a Co-requisite Course

Focus: Hayley Nathan (CA), Kelly Kohlmetz (QR), and Kate Burns (Stats) will help participants create a lesson for their course implementing just-in-time support principles.

- Work in small groups (by course) to draft new problems and redesign problems for just-in-time support, incorporating equitable practices

Co-req session 4: Thursday, June 11, 10-11:30 a.m.: Key Strategies to Build Online Gateway Co-Requisite Courses

Focus: Hayley Nathan (CA), Kelly Kohlmetz (QR), and Kate Burns (Stats) will present strategies to support student success with online co-requisite courses. They will share lessons learned, considering both perspectives of planning an online or hybrid course in advance as well as transitioning a course from face-to-face to online or hybrid.

- Discuss strategies to support student success in online or hybrid courses with an eye on equity
- Work in small groups to draft co-requisite course materials that are a good fit for the remote learning environment

Workshop closing session, Thursday, June 11, 2-3:30 p.m.: Q&A, Next Steps, Reception

Focus: In this final session, participants and facilitators will discuss any lingering specific questions or general concerns, discuss next steps, and “meet” to debrief on workshop and other topics of interest in a virtual reception.

- Hayley Nathan (CA), Kelly Kohlmetz (QR), and Kate Burns (Stats) will be available for additional questions or concerns from 2 to 2:30 p.m.
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