EDUC 263G: Quantitative Reasoning and Mathematics III
Stanford University, Winter 2026
Wednesdays, 2:15-5:15 pm in Raikes 111

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Course Objectives:

The EDU263G (Quantitative Reasoning and Mathematics III) course is Part 3 of a three-course sequence in elementary mathematics teaching methods. This sequence is designed to provide teacher candidates with a coherent set of experiences for mathematics teaching and learning in elementary schools. Through assigned readings, classroom discussions, content rich mathematics activities, and assignments that require data collection in your field placement, you will be supported as you make sense of how to approach the profession of teaching. Through thinking about ourselves as teachers and examining classroom activity, we will set the stage for our development as elementary mathematics teachers. The topics and readings selected below are intentionally sequenced to support teachers' work in disrupting marginalization and oppression in the mathematics classroom.

Please note: We will adhere to the syllabus as much as possible. However, we are responsive to the needs of the class, therefore, the syllabus is subject to change.

Course Assignments:

Assignment	Due Date
Reflection on Lesson Strings	Session 8, Mar 4
Eliciting Student Thinking Assignment	Session 6, Feb 18
Classroom Visioning Statement	Session 8, Mar 4
Readings Assigned readings should be done before class.	Before every class
Participation All of our learning is enhanced when everyone reads carefully and fully participates in class activities and discussions.	Every class

Course Grades:
This is an active, collaborative, experience-rich course. Attendance and participation are central to the learning experience. Our expectation is that everyone will engage in and revisit their work throughout the quarter such that all can receive an A grade. If your work – including the quality of your participation and assignments – is not at that standard we will discuss ways to improve it and you will have the opportunity to revise and resubmit. Our goal is learning, with continued opportunities for mastery.

Regarding participation, we are looking for you to contribute to both small and whole group discussions. Whether you are more talkative or more introverted in nature, we expect that you make concerted efforts to both listen and contribute, monitoring your level of sharing, and making space for others to join in. We recognize that you may have more to say about one topic over another, but across the ten weeks, we should have heard your thoughts and ideas in both small and whole group discussions and those ideas should be connected in some way to our shared readings. This will help your learning as well as the learning of the group.

Course Readings (All readings will be made available on Canvas):
Required readings will be finalized in accordance with class needs; remaining readings are optional.

California State Board of Education. (2023, July 12). *Mathematics framework*. Mathematics Framework - Mathematics (CA Dept of Education). https://www.cde.ca.gov/ci/ma/cf/

Cirillo, M., & Osuna, J. (2018). Using classroom discourse as a tool for formative assessment. *A fresh look at formative assessment*, 21-40.

Dolk, M., Liu, N., &Twomey Fosnot, C. (2007). The Double Decker Bus: Early Addition and Subtraction. *Contexts for Learning.* Harcourt.

Huinker, D., Bill, V., & Margaret (Peg). Smith. (2017). *Taking action: Implementing effective mathematics teaching practices in K-grade 5*. Reston, Virginia: National Council of Teachers of Mathematics.

Jackson, K. J., Shahan, E. C., Gibbons, L. K., & Cobb, P. A. (2012). Launching complex tasks. *Mathematics Teaching in the Middle School*, *18*(1), 24-29.

Lambert, R., Sugita, T., Yeh, C., Hunt, J. H., & Brophy, S. (2020). Documenting increased participation of a student with autism in the standards for mathematical practice. *Journal of Educational Psychology*, *112*(3), 494.

Markworth, K., McCool, J., & Kosiak, J. (2015). *Problem Solving in All Seasons: Prekindergarten-Grade 2*. National Council of Teachers of Mathematics. 1906 Association Drive, Reston, VA 20191.

Munson, J. (2018). *Responding to Student Thinking in the Moment: Examining Conferring Practices and Teacher Learning in the Elementary Mathematics Classroom*. Stanford University.

Munson, J., Langer-Osuna, J., Kwon, F., & Trinkle, M. (2023). The Collaborative Math Classroom: Launching a student-centered mathematical community. Heinemann.

The University of Texas Dana Center. (2001). *Formative re-engaging lessons: Inside mathematics*. Inside Mathematics. Retrieved November 29, 2021, from https://www.insidemathematics.org/classroom-videos/formative-re-engaging-lessons.

Two-thirds math. (2022, April 20). How to write a vision statement for your classroom. Medium. https://medium.com/@twothirdsmath/how-to-write-a-vision-statement-for-your-classroom-e8061babb657

Van de Walle, J. A., Lovin, L. H., Karp, K. H., & Williams, J. M. B. (2013). *Teaching Student-Centered Mathematics: Pearson New International Edition PDF eBook: Developmentally Appropriate Instruction for Grades Pre K-2 (Volume I)* (Vol. 1). Pearson Higher Ed.

Students with documented disabilities:
Students who may need an academic accommodation based on the impact of a disability must initiate the request with the Student Disability Resource Center (SDRC) located within the Office of Accessible Education (OAE). SDRC staff will evaluate the request with required documentation, recommend reasonable accommodations, and prepare an *Accommodation Letter* for faculty dated in the current quarter in which the request is being made. Students should contact the SDRC as soon as possible since timely notice is needed to coordinate accommodations. The OAE is located at 563 Salvatierra Walk (phone: 650-723-1066, 650-723-1067 TTY).

At a Glance Summary
Please check back for updated week-to-week information

	Pedagogy, Content, & Political Foci	**Homework to do before class**
Class 1 **1/7**	Eliciting Student Thinking	Reading: ● (Optional) Chapter 3 of Munson, "In the Moment" with a focus on the questions teachers ask
1/14	**No class this week - Immersion week, assessment seminar**	
Class 2 **1/21**	3 Phase Lessons and Lesson Strings In class readings: ● Markworth: 3 phase lesson structure article Deep reads: ● Deep Reads: Launch article Jackson- "Launching Complex Tasks"	Reading: ● The Double Decker Bus unit from Contexts for Learning Mathematics (spend no more than 90 minutes reading through this. Focus on the big ideas section starting on page 6, and how the content learning progresses.)
Class 3 **1/28**	Re-engagement lessons Deep Reads: ● Deep reads: Lambert, R., Sugita, T., Yeh, C., Hunt, J. H., & Brophy, S. (2020). Documenting increased participation of a	Explore Inside Mathematics resources on Re-engagement

	student with autism in the standards for mathematical practice. *Journal of Educational Psychology*, *112*(3), 494.	
Class 4 **2/4**	Using Student work as Formative Assessment Deep Reads: ● Cirillo, M., & Osuna, J., (2018). Using classroom discourse as a tool for formative assessment.	Bring a set of student work (10 or more), classwork, photos, etc. (not a test) Reading:
Class 5 **2/11**	Conferring with students	Reading: ● Chapter 6 of Munson, "In the Moment"
Class 6 **2/18**	The Classroom environment In class reading: ● Munson, Osuna, Kwon and Trinkle- Ch 2 of *The Collaborative Math Classroom*	Reading ● Munson, Osuna and Tinkle- Ch 1 of *The Collaborative Math Classroom* Assignment due: Eliciting Student Thinking assignment due in Canvas
Class 7 **2/25**	Establishing a Student Centered Classroom	Reading: ● Munson, Osuna and Tinkle- Ch 3 of *The Collaborative Math Classroom* ● Two thirds Math- How to Write a Vision Statement for your Classroom
Class 8 **3/4**	Establishing a Student Centered Classroom	Classroom Visioning Statement due in Canvas