

**EDUC 263E: Quantitative Reasoning and Mathematics I**  
**Stanford University, PreFall 2024**

**July 22\*, July 24, July 31**

**Aug 7, Aug 21**

**Sept 4, Sept 11, Sept 18**

*\*please note July 22 class is 1:30 - 4:30pm. All other classes are 2:30-5pm*

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**Course Objectives:**

The EDU263E (Quantitative Reasoning and Mathematics I) course is Part 1 of a 3-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.

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

### Course Assignments:

Assignment	Due Date
<i>Mathography Assignment</i> Write a narrative reflection on your past and present experiences as a math learner and how these experiences shape your identity and beliefs as a teacher. (See specifics in Canvas, upload to Canvas and bring to class)	July 24 at 1 pm
<i>Student Mathstory Assignment</i> Interview a student from your placement about their experiences as a math learner and write about what they shared.(See specifics in Canvas, upload to Canvas and bring to class).	Suggested due date: Sept 4, firm due date Sept 11 at 1 pm
<i>Implement a Number Talk or Dot Talk in your Placement</i> (See row below and assignment in Canvas)	8/21-9/11
<i>Number Talk Assignment</i> Plan, facilitate, and reflect on a number talk with a small group or with the whole class in your Summer Explorations class.(See specifics in Canvas, upload to Canvas and bring to class).	Sept 18 at 1 pm

### Readings & Participation:

Assigned readings should be done before class. There will be no lectures in this course. We assume you have read the texts and are prepared for discussion and activity based on your understandings of the readings. Our whole-class learning is enhanced when everyone reads carefully and fully participates in class activities and discussions.

### Course Grades:

Course grades will be based on attendance and punctuality, completion of pre-work activities, participation in synchronous activities (discussion about the readings, math content activities, etc.), and the quality and completion of the written assignments.

### Course Readings:

California Mathematics Framework (2023). <https://www.cde.ca.gov/ci/ma/cf/>

del Rosario Zavala, M., Andres-Salgarino, M. B., de Araujo, Z., Candela, A. G., Krause, G., & Sylves, E. (2020). The Mo (ve) ment to Prioritize Antiracist Mathematics: Planning for This and Every School Year. *TODOS: Mathematics for All*.

Gutiérrez, Rochelle. "Framing equity: Helping students “play the game” and “change the game”." *Teaching for excellence and equity in mathematics* 1, no. 1 (2009).

Van de Walle, J. A., Karp, K. S., & Bay-Williams, J. M. (2013). *Elementary and middle school mathematics: Teaching developmentally* (8th ed.). New York: NY: Pearson.

Zager, T. J. (2023). *Becoming the math teacher you wish you'd had: Ideas and strategies from vibrant classrooms*. Routledge.

**Note:** If you wish to purchase either the Van de Walle or Zager text, they are available through the Stanford Bookstore, Amazon and other sellers. Copies are also on reserve at Cubberley Library. All readings for summer will be accessible through the Canvas website <https://canvas.stanford.edu>. Assignments will also be submitted through Canvas.

**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**

Date	Topics and In-Class Activities	Readings to do before class	Due
Class 1 July 22	<p><i>Content Focus:</i> Math Identity</p> <p><i>Equity Focus:</i> Locating equity in the classroom: Co-constructing agreements for equitable participation with math tasks.</p>		
Class 2 July 24	<p><i>Content Focus:</i> What is math?</p> <p><i>Equity Focus:</i> Reflecting on your experiences with math as a student prepares you to support positive math identities in your students.</p>		Mathography assignment (Due in canvas and bring to class)

<b>Class 3 July 31</b>	<p><i>Content Focus:</i> Number Sense</p> <p><i>Equity Focus:</i> Honoring a range of student thinking prepares you to teach all students and support positive math identities.</p>	VDW Ch Ch 8: Developing Early Number Concepts	
<b>Class 4 August 7</b>	<p><i>Content Focus:</i> Operations</p> <p><i>Equity Focus:</i> TODOS President Linda Fulmore, in her message from June 2, 2020, "We can no longer believe that a focus on curriculum, instruction, and assessment alone will be enough to prepare our children for survival in the world. We need antiracist conversations for ourselves and for our children."</p>	VDW Ch 9: Operations and (optional read ahead) TODOS position statement	
	<i>No class Aug 14</i>		
<b>Class 5 August 21</b>	<p><i>Content Focus:</i> Geometry and Measurement</p> <p><i>Equity Focus:</i> "Equity is ultimately about the distribution of power- power in the classroom, power in future schooling, power in one's everyday life, and power in a global society." - Gutiérrez, 2002</p>	VDW, <i>either</i> Ch 19: Measurement or Ch 20: Geometric Thinking and (optional read ahead) Gutiérrez: Framing Equity	
	<i>No class August 28</i>		
<b>Class 6 Sept 4</b>	<p><i>Content Focus:</i> Fractions</p> <p><i>Equity Focus:</i> Understanding children's strategies as part of a developmental process enables a focus on growth.</p>	VDW, Chapter 15: Developing Fraction concepts	(Suggested) Student Math Interview
<b>Class 7 Sept 11</b>	<p><i>Content Focus:</i> Rational Numbers</p> <p><i>Equity Focus:</i> Good math tasks increase learning opportunities for all students and support positive math identities.</p>	TBD	(Hard Deadline) Student math interview

<b>Class 8 Sept 18</b>	<i>Content Focus:</i> Mathematical Progressions  <i>Equity Focus:</i> Students' mathematical identities are shaped largely by in class experiences, which requires intentional decision making from the teacher every day.		Number Talk assignment
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