

**EDUC 263C: CURRICULUM & INSTRUCTION IN MATHEMATICS**  
**CERAS 302**  
**TUESDAYS, 3:00 – 5:50PM**

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### INTRODUCTION

This is the third of a 3-course sequence focused on mathematics teaching and learning. The course sequence is designed to create an opportunity for sustained learning and professional growth. Our goals for the year are to help you:

- Increase your knowledge of mathematics and mathematics pedagogy
- Examine your own knowledge, beliefs, and assumptions about mathematics, teaching and students
- Increase your theoretical knowledge and practical experiences in planning, teaching, and assessing mathematics
- Understand the mathematical needs of a diverse range of students
- Understand the complexities of diverse, multi-ability classrooms while broadening your repertoire of teaching strategies
- Learn from your experiences in schools through informed reflection

This quarter we will continue to develop skills in lesson planning and will focus on how particular lessons fit into larger instructional learning segments. We will draw upon what we have learned to design learning segments and individual lessons centered on equity. The experience of developing and refining a segment of instruction is the cornerstone of our work this quarter, and it will prepare you for success on EdTPA, the culminating performance assessment of your teaching proficiency in the spring. You will submit pieces of this learning segment often this quarter and there will be frequent chunks of class time dedicated to workshopping its parts.

### COURSE REQUIREMENTS

We expect you to come to class having completed the reading and assignments due for that day and prepared to participate in class discussions and activities. Attendance to all sessions is mandatory. You can request an extension on a due date, but it must be done in a timely manner.

#### ***Assignments:***

*Learning Segment Assignment (LSA)*

See assignment sheet for complete detail

#### *Short video clip*

During week 3 (on 1/21/20), we will take some time to analyze student reasoning in your classrooms using video records. You will select a 2-minute video clip from one of your video observations. This clip should focus on students and their engagement in the mathematics of the lesson. You do not need to be in the clip, but it's fine if you are.

***Submitting Assignments:***

All assignments should be digitally submitted to Canvas unless otherwise specified by the instructors. All feedback will be provided digitally within your submitted documents, and either re-posted to Canvas or emailed to you. Please submit all files as word documents unless otherwise specified.

**Please save all files using the following naming convention:**

**Lastname\_Assignment.doc**

**For example: Anderson\_ConceptMap.doc**

***Assessments and Grading:***

Your grade will be based primarily on the quality of the assignments mentioned above. We will also consider attendance and active contributions to class discussions. As with all your work in C&I this year, you may revise and resubmit any written assignment for a higher grade.

We expect that you will turn in all assignments by the due date. Please contact us well in advance if you have concerns about completing assignments on time. Extensions may be granted by your instructors, if requested. Late work that is submitted without an extension may be subject to a grade penalty.

***Absences:***

Absences are for major illness or family emergencies **only**. In such instances, students are responsible for contacting instructors before class and completing any work missed due to absence. Missing more than two class sessions may result in a grade penalty.

**UNIVERSITY POLICIES**

All Stanford students are expected to follow the **Stanford Honor Code** and **Fundamental Standard**, as noted in the STEP Handbook and Stanford Student Guide. Website:

<https://communitystandards.stanford.edu/student-conduct-process/honor-code-and-fundamental-standard>

***Students with Documented Disabilities***

Students who may need an academic accommodation based on the impact of a disability must initiate the request with the Office of Accessible Education (OAE). Professional 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 OAE as soon as possible since timely notice is needed to coordinate accommodations. The OAE is located at 563 Salvatierra Walk (phone: (650) 723-1066, URL: <http://studentaffairs.stanford.edu/oae>).

## COURSE SCHEDULE

Week	Topic	Readings	Assignments
1 1/7	Asset vs. Deficit Framing	Stein, M. K., & Smith, M. (2011). <i>5 Practices for Orchestrating Productive Mathematics Discussions</i> . pp. 1-6  Gutiérrez, R. (2008). A "gap-gazing" fetish in mathematics education? Problematizing research on the achievement gap. <i>Journal for Research in Mathematics Education</i> , 357-364.	
2 1/14	Teaching for Equity	<b>Read one of the Gutstein pieces.</b> Gutstein, E. (2007). "And that's just how it starts": Teaching Mathematics and Developing Student Agency.  Gutstein, E., Lipman, P., Hernandez, P., & de los Reyes, R. (1997). Culturally relevant mathematics teaching in a Mexican American context.	Component 1: Memo from Meeting with CT <b>DUE: Monday, 1/13 by 10 pm</b>
3 1/21	Evidence And Assessment of Mathematical Proficiency	Kilpatrick, J., Swafford, J., & Findell, B. (Eds.). (2001). <i>Adding it up: Helping children learn mathematics</i> , pp 115-155.	Bring 2 min video clip <b>DUE: in class</b>  Component 2: Concept map <b>DUE: Monday, 1/20 by 10 pm</b>
4 1/28	Designing assessments and rubrics	Tomlinson, C. A., & McTighe, J. (2006). <i>Integrating Differentiated Instruction and Understanding by Design</i> .	Component 3: Learning segment objectives and rationale <b>DUE: Monday, 1/27 by 10 pm</b>
5 2/4	Facilitating mathematical discussions (Part I)	Stein, M. K., & Smith, M. (2011). <i>5 Practices for Orchestrating Productive Mathematics Discussions</i> . (Chapter 1 and 2)	Component 4: Culminating Assessment and Rubric <b>DUE: Monday, 2/3 by 10 pm</b>
6 2/11	Facilitating mathematical discussions (Part II)	Stein, M. K., & Smith, M. (2011). <i>5 Practices for Orchestrating Productive Mathematics Discussions</i> . (Chapter 4 and 5)	Component 5: Learning Calendar <b>DUE: Monday, 2/10 by 10 pm</b>

<b>7</b> 2/18	Building good tasks with technology	Guest: Diarra Bousso Reading TBA	Component 6: Elaborated Lesson Plan <b>DUE: Monday, 2/17 by 10 pm</b>
<b>8</b> 2/25	Facilitating Whole Class Discussions	Stein, M. K., & Smith, M. (2011). <i>5 Practices for Orchestrating Productive Mathematics Discussions</i> . (Chapter 6)	Component 7: Math task debriefs <b>DUE: Monday, 2/24 by 10 pm</b>
<b>9</b> 3/3	Implementing the 5 Practices	Stein, M. K., & Smith, M. (2011). <i>5 Practices for Orchestrating Productive Mathematics Discussions</i> . (Chapter 3)	Component 8: Commentary <b>DUE: Monday, 3/2 by 10 pm</b>
<b>10</b> 3/10	Learning from Practice  Reflection	Jacobs, V. R., Martin, H. A., Ambrose, R. C., Phillip, R. A. (2014). Warning signs! Recognizing three common instructional moves that are generally followed by taking over children's thinking.	Completed Learning Segment Assignment (LSA) <b>DUE: Monday, 3/9 by 10 pm</b>