

EDUC 263C: CURRICULUM & INSTRUCTION IN MATHEMATICS
CERAS 302
TUESDAYS, 3:15 – 6:15PM

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INTRODUCTION

This is the third of a three-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

Instructional Material

During week 8 (on 2/22/22) we will take some time to analyze instructional materials for the edTPA. You will select one digital file that corresponds to instructional material for any portion of a lesson in your learning segment. Provide citations for materials you did not create and indicate the corresponding lesson number.

Short video clip

During week 10 (on 3/8/22), we will take some time to analyze student reasoning in your classrooms using video records. You will select a 3-minute video clip from one of your video observations. This clip should address either rubric 6, 7, 8, or 9 of the edTPA. 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: Brown_Lesson Plans.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 of 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.

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:<https://oae.stanford.edu/>).

COURSE SCHEDULE

Week	Topic	Readings	Assignments
1 1/4	Evidence and Assessment of Mathematical Proficiency	Jilk, L. M. (2016). Supporting Teacher Noticing of Students' Mathematical Strengths. <i>Mathematics Teacher Educator</i> , 4(2), 188-199. Kilpatrick, J., Swafford, J., & Findell, B. (2001). <i>Adding It Up: Helping Children Learn Mathematics</i> . National Academy Press. (Chapter 4)	
2 1/11	Designing Equitable Assessments and Rubrics	Gutiérrez, R. (2007). (Re)Defining Equity: The Importance of a Critical Perspective. In N.S. Nasir & P. Cobb (Eds.), <i>Improving Access to Mathematics: Diversity and Equity in the Classroom</i> (pp. 37-50). New York, NY: Teachers College Press. Tomlinson, C. A., & McTighe, J. (2006). <i>Integrating Differentiated Instruction & Understanding by Design: Connecting Content and Kids</i> . ASCD. (Chapter 5)	Component 1: edTPA Context For Learning Template (pp. 39-41) / Memo Due: 1/14 (Friday at 10 pm)
3 1/18	Intro to the 5 Practices	Stein, M. K., & Smith, M. (2018). <i>5 Practices for Orchestrating Productive Mathematics Discussions</i> . (Introduction and Chapters 1-2)	
4 1/25	Facilitating Mathematical Discussions (Part I)	Stein, M. K., & Smith, M. (2018). <i>5 Practices for Orchestrating Productive Mathematics Discussions</i> . (Chapters 4-5)	Component 2: Lesson Plans Draft (using edTPA lesson plan instructions on p. 9) Due: 1/24 (Monday at 10 pm)
5 2/1	Facilitating Mathematical Discussions (Part II)	Stein, M. K., & Smith, M. (2018). <i>5 Practices for Orchestrating Productive Mathematics Discussions</i> . (Chapter 6)	Component 3: Final Lesson Plans (using edTPA lesson plan instructions on p. 9) Due: 1/31 (Monday at 10 pm)
6 2/8	Implementing the 5 Practices	Stein, M. K., & Smith, M. (2018). <i>5 Practices for Orchestrating Productive Mathematics Discussions</i> . (Chapter 3 and 9)	Component 4: edTPA Planning Commentary Prompts 1, 2, and 3c. (pp. 10-11) Due: 2/7 (Monday at 10 pm)

7 2/15	Asset vs. Deficit Framing	Gutiérrez, R. (2008). Research Commentary: A Gap-Gazing Fetish in Mathematics Education? Problematizing Research on the Achievement Gap. <i>Journal for Research in Mathematics Education</i> , 39(4), 357-364.	Component 5: Assessment & Evaluation Criteria Due: 2/14 (Monday at 10 pm) Rehearsal Week
8 2/22	Power & Agency	Gutstein, E. (2007). "And that's just how it starts": Teaching Mathematics and Developing Student Agency. Martin, D. B., Gholson, M. L., & Leonard, J. (2010). Mathematics as gatekeeper: Power and privilege in the production of knowledge. <i>Journal of Urban Mathematics Education</i> , 3(2), 12-24.	Bring Instructional Material to Class (No Submission) Rehearsal Week
9 3/1	Building Good Tasks with Technology or Incorporating Technology (Guest speaker)	Kitchen, R., & Berk, S. (2016). Research Commentary: Educational Technology: An Equity Challenge to the Common Core. <i>Journal for Research in Mathematics Education</i> , 47(1), 3-16.	Component 6: edTPA Planning Commentary Prompt 5 (p. 12) & All LSA Revisions Due: 2/28 (Monday at 10 pm)
10 3/8	Student Centered Instruction	Jacobs, V. R., Martin, H. A., Ambrose, R. C., & Philipp, R. A. (2014). Warning signs!. <i>Teaching Children Mathematics</i> , 21(2), 107-113. Reinhart, S. C. (2000). Never Say Anything a Kid Can Say!. <i>Mathematics Teaching in the Middle School</i> , 5(8), 478-483.	Video Clip: Bring a 3-minute teaching clip to class that addresses either Rubric 6, 7, 8, or 9 of edTPA (No Submission)
Finals Week			All LSA Components & Reflection DUE: 3/14 Monday at by 10 pm