Introduction
This is a condensed overview of mathematics teaching and learning designed to follow a three-course sequence in methods of curriculum and instruction in non-mathematical secondary content. The course provides an opportunity for sustained learning and professional growth. Our goals are to help you:

- examine your own knowledge, beliefs, and assumptions about mathematics, teaching, and students,
- increase your knowledge of mathematics and mathematics pedagogy,
- increase your theoretical knowledge and practical experience in planning, teaching, and assessing mathematics,
- understand the mathematical needs of a diverse range of students,
- understand the complexities of diverse, multiple-ability classrooms while broadening your repertoire of teaching techniques, and
- learn from your experiences in schools through informed reflection.
- learn how to effectively use the most important technology for math learners

Throughout the course, we will consider the Common Core State Standards for Mathematics.

We will analyze teaching practices in many ways, considering the role played by mathematics, the teacher, and the students. Different examples of practice will be analyzed on video. We will also engage in mathematical tasks that will place you as learners of mathematics and pedagogy. We will consider the acts of close and respectful listening to students’ mathematical thinking and asking important questions in order to probe and further understanding. There will be a joint focus throughout the course on research and practice.

Course Requirements
I expect you to come to class having completed the reading and assignments due for that day and to be prepared to participate in class discussions and activities. This means that you have a clear idea of the main points; you may have formulated some questions; or you have noted any related issues that the reading or topic raised for you.

Your participation depends upon your timeliness in attendance. If for any reason, you will miss or be late to class, please email the instructor ahead of time. Regarding participation, I expect you to contribute to both small and whole group discussions. Whether you are more talkative or more introverted in nature, I expect you to make concerted efforts to both listen and contribute, monitoring your level of sharing, and making space for others to join in. I recognize that you may have more to say about one topic over another, but across the course, I should have heard your thoughts and ideas in both small and whole group discussions. This will help your learning as well as the learning of the group.
**Major Assignments:** Please turn in all assignments to Canvas by the due date.

- Eliciting student thinking memo, transcript, and reflection: due May 24.
  You will conduct a 5-10 minute diagnostic interview with a student, write a memo of your experience, transcribe a segment of the interview, and write a 2-3 page reflection.
- Reflecting on Teaching Mathematics: due May 31
  Please write a 2-3 page reflection on what you have learned in taking this course.

**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: Ruef_Interview.doc

**Assessments and Grading:**
Your grade will be based primarily on the quality of the assignments mentioned above. I will also take into account 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.

I expect that you will turn in all assignments by the due date. Please contact me well in advance if you have concerns about completing assignments on time.

**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: [http://www.stanford.edu/dept/vpsa/judicialaffairs/about/welcome.htm](http://www.stanford.edu/dept/vpsa/judicialaffairs/about/welcome.htm)

**Students with 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; website: [http://studentaffairs.stanford.edu/oae](http://studentaffairs.stanford.edu/oae).
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<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Readings</th>
<th>Assignments Due</th>
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<td>6</td>
<td>5/3 Big ideas, Learning objectives, Concept maps</td>
<td>Charles, (2005). Big ideas and understandings as the foundation for elementary and middle school mathematics.</td>
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<td>10</td>
<td>5/31 Wrapping up</td>
<td>Reinhart, (2000). Never say anything a kid can say.</td>
<td>Turn in: Final course reflection</td>
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</tbody>
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**READINGS:**


Common Core Standards for Mathematical Practice (2010). (pp. 6-8)

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

