Introduction
This is the first of a 3-course sequence focusing on mathematics teaching and learning. The course provides an opportunity for sustained learning and professional growth. Our goals are to help you:

- understand the nature of effective teaching and learning of mathematics,
- 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.

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

In the first quarter we will analyze teaching practices in many ways, considering the role played by mathematics, the teacher, and the students. Several 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
We 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; and/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 instructors ahead of time. In the summer quarter, you will be required to complete several assignments, conduct readings (see Course Schedule) and complete daily tasks, which will be described during class.

Major Assignments:
- Maths History: due Sunday June 30th by 10:00pm.
- Number talk observation notes and reflection: due July 10th by 10:00pm.
- Listening Transcript: due July 11th in class.
- Reflecting on Summer Mathematics: due Sunday July 14th by 10:00pm.
Your Grade

Our expectation is that everyone will receive an A grade. If your work – including the quality of your participation and assignments, the Final Reflection Assignment, Maths History, Listening Assignment, Number Talk Observation and Reflection – is not at that standard we will discuss ways to improve it.

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 two weeks, we 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.

Course Schedule

Sunday June 30th by 10pm Maths History Due to Canvas

Session 1 – Monday July 1: Mathematical Mindsets


Session 2 – Tuesday July 2: Exploring Number Sense


Session 3 – Wednesday July 3: What is Mathematics?

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

Session 4 - Monday July 8: Listening to Student Thinking


Session 5 – Tuesday July 9: Cultural Analyses of Teaching

• Stigler & Hiebert. (1999). *The Teaching Gap: Best Ideas from the World’s Teachers for Improving Education in the Classroom*. The Free Press. (Chapter 6)


Session 6 – Wednesday July 10: Equity Focused Teaching and Learning


• Number talk observation notes and reflection Due to Canvas by 10 pm

Session 7 – Thursday July 11: Placing Student Ideas at the center of Teaching


• Bring 2 hard copies of your Listening Transcript to Class today

Session 8 – Friday July 12: Classroom Culture and the Establishment of Socio-mathematical Norms


Sunday July 15th by 10pm Reflection on Summer Mathematics Due to Canvas

What to turn in and where:

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<thead>
<tr>
<th>What:</th>
<th>By When:</th>
<th>Where:</th>
<th>Formatting &amp; Length:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math History:</td>
<td>Sunday, June 30th</td>
<td>Upload to Canvas</td>
<td>500 words</td>
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<tr>
<td>An Informal Essay</td>
<td>by 10:00pm</td>
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<tr>
<td>Assignment</td>
<td>Due Date</td>
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<tr>
<td>Number talk observation notes and reflection</td>
<td>Wednesday, July 10&lt;sup&gt;th&lt;/sup&gt; by 10:00pm</td>
<td>Upload to Canvas guide and observation form: pdf or photo reflection:</td>
<td>500-1000 words</td>
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<tr>
<td>Listening Transcript</td>
<td>Thursday, July 11&lt;sup&gt;th&lt;/sup&gt; by start of class</td>
<td>Bring to Class</td>
<td>2 hard copies</td>
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<tr>
<td>Reflecting on Summer Mathematics</td>
<td>Sunday, July 14&lt;sup&gt;th&lt;/sup&gt; by 10:00pm</td>
<td>Upload to Canvas</td>
<td>1000-1500 words</td>
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