MISSION

To realize the capacity of mathematics in assuring the healthy and whole development of all children so they have the intellect and global competency to (a) understand and participate in a rapidly changing world and (b) to sustain or change their place in it.

Mathematics has a crucial role in assuring the healthy and whole development of all children. Mathematics as a core academic subject helps us understand and describe our world. It is a way to understand and describe numbers, patterns, quantity, size, shape, and space. Mathematics is international – it is found and used all over the world and has an associated symbolic language that crosses the globe.

Math is also a discipline that helps children to develop the skills and dispositions that allow them to sustain or change their place in the world. Mathematical thinking skills and dispositions are critical to the global competency needed in the world today and for the unpredictable challenges of the future. Furthermore, these skills and dispositions are keys to ensuring a fair and inclusive education, which is one of the most powerful levers available to make society more equitable.

OBJECTIVES

The overarching goal of this course is to help you to develop high-leverage teaching practices that value learners and their ideas, embrace mathematics as a necessary tool for global competency, and commit you to professional and critical life-long learning. Specifically, the course is organized around six core practices of the profession related to idea that good mathematics teaching involves being actively responsive to students’ mathematical thinking and participation. Our objective is not to merely learn about these practices but to learn to enact these practices.

High Leverage Teaching Practices

- Understanding students’ dispositions towards mathematics and encouraging positive and productive mathematics dispositions.
- Using relevant and meaningful problems to engage learners in mathematical content.
- Recognizing common patterns of student mathematical thinking and implementing an appropriate instructional response.
• Eliciting and interpreting individual students’ thinking (particularly using questions to uncover, encourage, and extend student mathematical thinking).
• Orchestrating productive mathematical discussions.
• Building on-going professional connections and identifying professional resources to advance practice and enhance student learning.

RESPONSIBILITIES AND ASSIGNMENTS

This course is a blended online/f2f course, meaning that some of the course content and requirements will be conducted in our online course site on Blackboard (and the number of our f2f course meetings are reduced). As such, it is crucial that you carefully review the course responsibilities and assignments so that you understand how each is to be carried out. A brief description of responsibilities and assignments that will help you meet the goals of this course follow below; however, you should locate and read the more detailed descriptions available on the course Blackboard site.

Reflective memo on your mathematical experiences (September 3; December 11)
This assignment is an opportunity for you to reflect upon your experiences as a mathematics learner and your thoughts about mathematics teaching. First, before the first class session, you will write a memo with two sections: Section I is a 'mathematical autobiography’ and in Section II you will describe your vision of mathematics teaching. Then, at the end of the course, you will revisit your Section II and reflect on your process of growth and change.

Online scavenger hunt: Exploring our online course space and resources (Due September 4)
This assignment asks you to familiarize yourself with several aspects of our course online space and other web resources that we will be using. Think of this as an online scavenger hunt. You will receive information about getting onto our course Blackboard site as well as the scavenger hunt list via email about a week before class.

Online Modules: (September 25, October 23, November 13 & December 4)
These four sessions are online. For each of these weeks you will be completing an online module. Each module has a “video analysis” component and a “field investigation” component (specific descriptions of the modules will be available on the course website). You will be assigned to small groups with whom you will be sharing your analyses and investigations. Briefly, the “video analysis” component involves online activities around video(s) of teaching designed to support your learning about the core high leverage practices of the course. The “field investigation” component involves engaging in current issues in mathematics teaching, particularly related to the core practices of the course, through readings and conversations/observations in your placement. For each field investigation, you will share your thoughts and findings with your small group and provide feedback to your groupmates online.

Portfolio (Throughout the semester; final product due December 11)
This assignment provides opportunities for you to enact the core teaching practices of the course and to represent your teaching in a digital portfolio. You will be asked to plan, implement and reflect on several related teaching activities: interviews of students, peer teaching in our class, teaching a small group of students in your placement, and teaching your whole class. In your portfolio, you will provide: (1) artifacts from these experiences that document your understanding and enactment of the core teaching practices and (2) a commentary for each artifact that explains
your actions and decisions, the context, and the connections to the core practices you are aiming to
demonstrate. Throughout the semester, you will prepare components of the assignment to get
feedback from me and your peers. The final product is a fully digital binder due on the final day of
the course. Your digital binder will be completed in Livetext, an application that you will be using
over the course of the CITE program and that is required for the TPA, the final program assessment.
We will be receiving training in Livetext this semester.

**Participation**
You will be developing and/or strengthening particular habits considered to have a positive
influence on teaching and your identity as a professional. These habits include attending to
responsibilities on time, including being present and on-time for class sessions; attending to
responsibilities with integrity and effort; significantly participating in course discussions and
experiences (online and f2f); and communicating your knowledge, beliefs and opinions in clear,
thoughtful and inclusive ways in your writing and class participation.

**EVALUATION**

Your final grade will be based on your success in meeting the goal and objectives of this course as
demonstrated throughout the semester and in the course assignments.

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Participation</td>
<td>10</td>
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<tr>
<td>Reflective Memo</td>
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<tr>
<td>Online Modules</td>
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<tr>
<td>Portfolio</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
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**Grading Scale**

- **A+** (100)
- **A** (93 to 99)
- **A-** (90 to 92)
- **B+** (87 to 89)
- **B** (83 to 86)
- **B-** (80 to 82)
- **C+** (77 to 79)
- **C** (73 to 76)
- **C-** (70 to 72)

**REQUIRED TEXT**


*It is important that you purchase the 2012 edition. It includes new sections on the Common Core Standards and a greater emphasis on formative assessment, both important for this course.*

**Note about the Textbook:** The book is a resource as much as it is a text. The book not only provides perspectives in mathematics education and core ideas of how children develop understandings of mathematics, but it also details classroom activities and strategies to engage students in active and meaningful learning. Therefore, this is not a book you should “know” in every detail, but rather a book that you will use to investigate mathematics learning and teaching and as a resource for your future teaching.

**COURSE BLACKBOARD WEBSITE**
A significant part of this course involves online discussion and collaboration. We will be using our course Blackboard website as our primarily online space (hosted on the UMD Enterprise Learning Management System—referred to as ELMS). To log onto the websites for your courses, go to http://elms.umd.edu. Type in your UMD Directory ID and password. Your Directory ID/Username and password are the same ID and password assigned to your ID@umd.edu email account. Your ELMS homepage should appear with a listing of the course Blackboard sites to which you have access. If you don’t see EDCI 652 in your courselist, please let me know ASAP. Click on the link for the EDCI 652 course website to enter our course website.

If you need help using the Blackboard site, see the Student Resources tab on your ELMS homepage. If you are having technical problems, please contact the OIT helpdesk (elms@umd.edu or 301-405-1400).

### ADDITIONAL RECOMMENDED PROFESSIONAL RESOURCES

Effective teachers use high quality resources to stay current with research on children’s mathematical thinking and research on teaching techniques. Effective teachers also use high quality resources to aid them in the instructional decisions they make. Below are some resources that may be helpful to you in your teaching career. Many of the resources below can be found in Dr. Edwards’s office, the library of the Math Teaching Center (2226 Benjamin), McKeldin Library at UMCP, or online (i.e., the journals).

#### Journals

- Teaching Children Mathematics (Official K-4 journal of the NCTM)
- Mathematics Teaching in the Middle School (Official 5-8 journal of the NCTM)
- Journal for Research in Mathematics Education

#### Books or Series

• NCTM Navigations series: Ideas for PreK-2, 3-5, 6-8, and 9-12. Reston, VA: The Council. (All volumes)

**Websites**

• http://www.nctm.org (National Council of Teachers of Mathematics)
• http://www.mathsolutions.com (Math Solutions - A Marilyn Burns org.)
• http://mathforum.org/ (The Math Forum)
• http://www.learner.org (Annenberg Media Teacher Resources)
• http://www.pbs.org/teachers (PBS Teachers)
• http://free.ed.gov/subjects.cfm?subject_id=33 (Federal Resources for Educational Excellence—Math)

**LATE POLICY**

All assignments must be turned in by the dates and times given. If circumstances make completing the assignment on time impossible, you must notify me at least 24 hours in advance. In these cases, assignments may be turned in up to a week late. No credit will be given for late assignments if prior notice has not been provided.

**UNIVERSITY OF MARYLAND HONOR PLEDGE**

All students are expected to adhere to the University of Maryland’s Code of Academic Integrity, which can be accessed at [http://www.testudo.umd.edu/soc/dishonesty.html](http://www.testudo.umd.edu/soc/dishonesty.html). Failure to adhere to the code may result in the grade of XF – failure due to academic dishonesty. The University of Maryland Honor Pledge proposed by the Student Honor Council and approved by the University Senate, reads:
"I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination."

Unless you are specifically advised to the contrary, the Pledge statement should be handwritten and signed on the front cover of all papers, projects, or other academic assignments submitted for evaluation in this course. Students who fail to write and sign the Pledge will be asked to confer with the instructor.

ACADEMIC ACCOMMODATION

If you have a documented disability and wish to discuss academic accommodations, please contact me as soon as possible.
### FALL 2012 CALENDAR FOR EDCI 652

A more detailed schedule of assignments will be available at the first class session.

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<tr>
<th>Session 1</th>
<th>9/4/12</th>
<th>Rethinking how to do, learn, and teach mathematics: Core High Leverage Teaching Practices</th>
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<tr>
<td>Session 2</td>
<td>9/11/12</td>
<td>Teaching as active responsiveness to student thinking</td>
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<tr>
<td>Session 3</td>
<td>9/18/12</td>
<td>Teaching as active responsiveness to student thinking</td>
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<tr>
<td>Session 4</td>
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<td>Online Module #1: Standards-based Mathematics</td>
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<td>Number Sense Including Place Value and Base Ten</td>
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<td>Developing Meaning for the Operations</td>
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<tr>
<td>Session 7</td>
<td>10/16/12</td>
<td>Developing Meaning for the Operations</td>
</tr>
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<td>Session 8</td>
<td>10/23/12</td>
<td>Online Module #2: Teaching ELLs Mathematics</td>
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<td>Session 9</td>
<td>10/30/12</td>
<td>Concepts of fractions</td>
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<tr>
<td>Session 10</td>
<td>11/6/12</td>
<td>Concepts of fractions/Computations with fractions</td>
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<td>Session 11</td>
<td>11/13/12</td>
<td>Online Module #3: Race, Conceptions of Intelligence and Math Achievement</td>
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<tr>
<td>Session 12</td>
<td>11/20/12</td>
<td>Computations with fractions</td>
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<td>Session 13</td>
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<td>Algebraic Thinking</td>
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<td>Session 14</td>
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<td>Online Module #4: Teaching Mathematics to Students with Special Needs</td>
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<tr>
<td>Session 15</td>
<td>12/11/12</td>
<td>Course Wrap Up</td>
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