Core Math Partnership
Building Mathematical Knowledge and High-Leverage Instruction for Student Success
Summer 2016

Project Information

Project Goals
The Core Math Partnership engages teachers in study of mathematics progressions and effective teaching practices for furthering student achievement and success in mathematics.

Goal 1. Deepen teachers’ mathematical knowledge and understanding of content progressions aligned to the Common Core State Standards for Mathematics.

Goal 2. Strengthen teachers’ instruction through the use of high-leverage teaching practices to increase student success in mathematics.

Goal 3. Increase teacher collaboration within and across schools in moving to common practice with the Common Core.

Project Website: uwm.edu/coremath

Expectations
- Enroll in and successfully complete a series of UWM courses over three years (5 courses, 13 credits).
- Demonstrate strong professionalism within a collaborative culture and learning community in mathematics education.
- Work toward skilled use of high-leverage mathematics teaching practices to further student learning.
- Bring deeper understanding of mathematics content and learning progressions into your teaching.
- Engage in professional organizations with memberships and publications of the Wisconsin Mathematics Council (WMC) and National Council of Teachers of Mathematics (NCTM).
- Complete project evaluation requirements.

School Districts
The Core Math Partnership includes participants from:
- School District of Cudahy
- School District of South Milwaukee
- Milwaukee Public Schools

Project Staff

Project Staff

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University of Wisconsin-Milwaukee; phone: 414-229-6646

Deliveries: 2400 E. Hartford Ave, Room 265 Enderis Hall, Milwaukee, WI 53211-3159

US Mail: PO Box 413, UWM-CMSER, Milwaukee, WI 53201-0413

CMSER Website: http://www4.uwm.edu/soe/research/cmser

Instructional Staff

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Mr. Joe Giera
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Whitnall School District
Ms. Liz Cutter
emcutter@gmail.com

Three-Year Project Schedule

Year 1: Number, Operations, & Algebraic Reasoning
Summer Institute: July 21–Aug 1, 2014 (8:00 am–4:00 pm)
School Year: Sept 4 & 11, Oct 23, Nov 6, Dec 4, Feb 5 & 26, Mar 12 & 26, Apr 23 (Thurs 4:30–7:30 pm)

Year 2: Fractions, Ratios, & Proportional Relationships
Summer Institute: July 20–31, 2015 (8:00 am–4:00 pm)
School Year 2015-2016: Sept 10, Oct 1 & 22, Nov 12, Dec 3, Jan 7 & 28, Feb 25, March 17, Apr 7 (Thurs 4:30 – 7:30 pm)

Year 3: Geometry & Measurement
Summer Institute: July 18–29, 2016 (8:00 am–4:00 pm)

Funding
The project is funded through the U.S. Department of Education (ESEA Title II, Part B) Mathematics and Science Partnerships program. In Wisconsin, it is administered through the Wisconsin Department of Public Instruction. The grant was awarded to the University of Wisconsin-Milwaukee under the direction of Dr. DeAnn Huinker and Dr. Kevin McLeod.

DPI: http://tepdl.dpi.wi.gov/programs/eesa-title-ii-part-b

School District Project Advisors
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CMSER Website: http://www4.uwm.edu/soe/research/cmser

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PO Box 413, UWM 53201-0413

Kurtis 625-102, Summer 2016, Core Math Partnership Project
To protect the learning environment for all participants, you are required to silence or disengage cellular phones and other electronic devices, and only use WI-FI computer connections as needed for session activities and note-taking.

### Course Information

#### Class Sessions

- **Number:** Currins 625  
  **Section:** 102 (Summer 2016)
- **Title:** Instructional Trajectories for Geometry and Measurement (official UWM title: Principles and Practices of Teaching Geometry and Geometric Thinking)
- **Credits:** 3 U/G credits
- **Instructors:**  
  - Dr. Kevin McLeod  
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    414-229-5269
  - Dr. Michael Steele  
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  - Joe Giera  
    jgiera@sdsm.k12.wi.us
  - Liz Cutter  
    emcutter@gmail.com
- **Dates:** July 18-22 and July 25-29, 2016 (Monday-Friday)
- **Time:** 8:00 am – 4:00 pm
- **Location:** LGI Room, Cudahy High School, 4950 S. Lake Drive, Cudahy, WI 53110

#### Course Objectives

**Description:** Examination of instructional trajectories for geometry and measurement for developing and assessing students’ geometric reasoning. Prereq: jr st; teaching experience.

**Objectives:**

- Deepen understanding of big ideas of the geometry and measurement standards of the *Common Core State Standards* (e.g., measurement: linear, area, volume, angle; spatial structuring: composing and decomposing shapes, transformations; van Hiele levels).
- Examine student conceptions and misconceptions, strategies, and reasoning related to geometry and measurement concepts and operations.
- Strengthen understanding of high-leverage mathematics teaching practices.
- Develop plans to use research-based, instructional approaches for number talks (e.g. justification, structure, regularity).

#### Required Texts and Readings

### Course Policies

**Investment of Time**: Study leading to one semester credit represents an investment of time by the average student of not fewer than 48 hours per credit earned. As a three-credit course, the expected time commitment from students is approximately 144 hours (3 credits x 48 hours per credit earned). Students should spend approximately 40% of the time participating in class sessions, 5% of the time in online discussions; 25% of the time completing assigned readings, studying course content, and completing written reflections and homework tasks; 30% of the time completing course projects.

**Learning Environment**: Disengage or silence all cellular phones to protect the learning environment of all participants. Store such devices out-of-sight; not sitting on tables or desks. Give yourself an electronic vacation for the few hours in which we meet face-to-face. You may take notes on computers and laptops or access websites as directed by the instructor, but refrain from checking personal email. You may check voice and email messages or make calls during breaks. Such use during a class session, including during whole or small group work or individual work, will result in a loss of participation points for the class session.

**Preparation of Assignments**: Assignments are to be word processed unless otherwise stated in class or the syllabus. Present each assignment in a neat, organized, and clear manner. Use APA format for all formal tasks. You are expected to provide some of your assignments in electronic format. Acceptable file types include MS Word, Google Doc, Pages, PowerPoint, Keynote, PDF, or JPEG, as appropriate to the assignment. *Always name electronic files with your last name* followed by a very short description of the work, otherwise it will not be accepted, as it is likely to be overwritten with other files or misplaced. It is also best to not include any periods other than before a file format extension. For example: williams-project-aug5.docx. Mislabeled files are likely to result in late assignment penalties.

**Email**: It is your responsibility to check your UWM email regularly or forward (import) your UWM email to a preferred personal or work email location. UWM will send all related university correspondence to your UWM email, as it is the address that automatically links to several UWM functions. The Core Math Partnership project will most often use your work or home email, please keep the project informed of any changes to email.

**Penalty for Submission of Late Assignments**: All assignments are due by midnight on the date specified. You may request an extension by contacting the instructor prior to the due date. Otherwise late assignments are penalized by one letter grade for each day it is late. No extra credit assignments or rewrites are granted.

**Final Assessment**: University policy requires all courses to have a final assessment conducted during the final examination period as scheduled for the particular semester. No separate examination period is established for the summer session; the final assessment requirement will be conducted on the last scheduled day of the course. Specific details will be discussed in class.

### Course Grading Procedures

<table>
<thead>
<tr>
<th>Course Requirement</th>
<th>Percent of Grade</th>
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</thead>
<tbody>
<tr>
<td>1. Attendance</td>
<td>-10% per unexcused absence</td>
</tr>
<tr>
<td>2. Participation in Class Sessions</td>
<td>20%</td>
</tr>
<tr>
<td>3. In-Class Tasks</td>
<td>20%</td>
</tr>
<tr>
<td>4. Log: Summary of Daily Reflections</td>
<td>20%</td>
</tr>
<tr>
<td>5. Project: Student Work Presentation (Geometry &amp; Measurement Tasks)</td>
<td>20%</td>
</tr>
</tbody>
</table>
Grades will be assigned on the following scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Scale</th>
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<tbody>
<tr>
<td>A</td>
<td>93–100%</td>
</tr>
<tr>
<td>A–</td>
<td>90–92%</td>
</tr>
<tr>
<td>B+</td>
<td>87–89%</td>
</tr>
<tr>
<td>B</td>
<td>83–86%</td>
</tr>
<tr>
<td>B–</td>
<td>80–82%</td>
</tr>
<tr>
<td>C+</td>
<td>77–79%</td>
</tr>
<tr>
<td>C</td>
<td>73–76%</td>
</tr>
<tr>
<td>C–</td>
<td>70–72%</td>
</tr>
<tr>
<td>D+</td>
<td>67–69%</td>
</tr>
<tr>
<td>D</td>
<td>63–66%</td>
</tr>
<tr>
<td>D–</td>
<td>60–62%</td>
</tr>
<tr>
<td>F</td>
<td>0–59%</td>
</tr>
</tbody>
</table>

Course Assignments and Requirements

1. Attendance

Attendance is vital to achieving the goals of this course. You are expected to attend all class sessions and are expected to arrive on time and stay the entire class session. Excused absences must be documented by providing a written explanation, preferably in advance of the absence by email, and given to the designated course instructor. Verbal conversations are not accepted. Excused absences include a medical issue under a doctor’s care for oneself or an immediate family member, a death in the immediate family, religious observance, or a contractual school district meeting. Include name, date of absence, and rationale, along with any written verification. Each unexcused absence results in grade deduction of 10% per absence. For example, if you miss one day of class, the highest grade you may earn is an A-. If you establish a pattern of tardiness/early departure, your grade will be impacted. For example, four instances of such will be considered equivalent to one absence. In regards to absences; “Find a Friend” to gather handouts, to learn about any announcements, and to discuss class activities. It is your responsibility to learn about what you missed from a colleague. All work is due on the established due dates regardless of attendance or absence.

2. Participation in Class Sessions

You are expected to participate as an active class member in whole group discussions, small group work, and individual work in a professional manner that contributes to the engagement and learning of all class members toward course goals. Restrain yourself and your colleagues from side bar conversations as active listening and reflection are important aspects to your own learning in this course.

3. In-Class Tasks

During each class session, you will be asked to engage in specific tasks. The purpose of the tasks is to extend and deepen your engagement with course content. The tasks will include, but are not limited to, assigned readings, written reflections and summaries, math tasks, group charting, and group reporting. In-class work, as requested, is submitted to the instructors for review.

4. Log: Summary of Daily Reflections

Throughout the institute you will keep a log of “key points” and “classroom ideas to try.” You will be provided a form to track both morning and afternoon reflections. The log will be submitted for instructor review at the completion of the summer institute.

5. Assignment: Student Work Presentation & Reflection (Due: Friday July 29, 2016)

Demonstrate how you would orchestrate a mathematics discussion around an important Geometric idea for students’

1. You will select an area of need identified in your student work samples (Geometric Measurement or Geometric Shape).
2. You will select 3-5 pieces of student work that can support a mathematics discussion around that big idea in Geometry.
3. Develop a 5-7 minute presentation sharing how you sequenced the work to strengthen the targeted area of need.

6. Project: Number Talks (Due: Tuesday, July 26, 2016)

The purpose of this project is to integrate the Number Talk routine into your current mathematics program. You will be working in district grade level teams to develop a document containing number strings that could be used to strengthen students’ computational fluency for your grade level. This will be a grade level project.

7. Core Math Partnership Project Evaluation

As required by the U.S. Department of Education, this project must participate in a rigorous evaluation to include assessments of teacher learning, student learning, and classroom implementation. As part of your
commitment to the Core Math Partnership project you will complete required evaluation surveys and assessments and submit course/project related artifacts (e.g., documents, student work samples, reflections).

### University and Project Policies and Procedures

**General Policies**: UWM policies regarding students with disabilities, religious observances, students called to active military duty, discriminatory conduct, academic misconduct, complaint procedures, grade appeal procedures, incompletes, and final exams can be found at: [http://www4.uwm.edu/secu/SyllabusLinks.pdf](http://www4.uwm.edu/secu/SyllabusLinks.pdf)

**Incompletes**: It is only under very unusual and extenuating circumstances that an “incomplete” will be granted. An "I" (incomplete) is assigned by the instructor if the student is unable to finish all the requirements for the course during the original semester of enrollment. If a grade of “Incomplete” is granted, a due date will be established for the required work. On that date a grade will be submitted based on currently submitted work, regardless. A grade of incomplete is appropriate only when the following conditions are present:

- The student has done satisfactory work in a substantial fraction of the course requirements prior to grading time and provides the instructor with evidence of potential success for the remaining work.
- Extraordinary circumstances, not related to the performance in the class, such as illness or family emergency, have prevented the student from finishing the course requirements on time.

**Grant or Course Specific Policies**:

**Classification Status**: You must have the same UWM classification, undergraduate or graduate, for all courses in which you enroll within the same semester, regardless. If you are enrolled in the graduate school, you must take the course for graduate credit. You may not “change” classification after you have enrolled for this course. Likewise, you may not have dual tuition status within the same semester. In other words you will be charged at the higher rate if you concurrently enroll in regular on-campus UWM courses or in special tuition pricing courses, such as through WSMI.

**Off-Campus versus On-Campus Status**: The grant for this project ONLY waives resident, off-campus tuition. Individuals concurrently enrolled in courses taught on-campus will need to pay segregated fees for all of their credits, including the grant course as the grant does not have funds allocated to pay segregated fees.

**Resident versus Non-resident Status**: The grant for this project ONLY waives resident, off-campus tuition. It does not waive non-resident or out-of-state tuition.

**Snow Days or Other Class Cancellations**: Class will be cancelled if UWM or the School District of Cudahy has cancelled evening classes or activities.

**Drop/Withdrawals**: If you choose to drop this course you must follow UWM procedures. You will be responsible for paying all drop, withdrawal, and other fees incurred. You are responsible for any or all tuition costs associated with your partial attendance as grants do not remiss tuition for courses you do not complete. Consult the current Schedule of Classes for the last day to drop a course from the semester schedule. Obtain a Change of Registration (ADD/DROP) form and get department or instructor approval to drop the class. Appeals to drop a course after the published deadline must be approved by the Office of Advising and Academic Services who are authorized to sign for the Dean of the School of Education. **If you owe fees or tuition, you will be billed directly from UWM and a hold will be placed on your records for any bills that are not paid**. For proper procedures and fee schedules, see [http://www4.uwm.edu/des/registration](http://www4.uwm.edu/des/registration)