Core Math Partnership
Building Mathematical Knowledge and High-Leverage Instruction for Student Success
School Year 2015-2016

Project Goals
The Core Math Partnership engages teachers in the 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

District Project Advisors
Karen Ebbers    ebbersk@ cudahysd.org
Amy Paladino   paladinoa@cudahysd.org
Dina Mendola    mendolad@cudahysd.org
Mr. Joe Giera   jgiera@sdsm.k12.wi.us
Beth Schefelker bschefelker@sdsm.k12.wi.us

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 & 24, Oct 22, Nov 12, Dec 3, Jan 7 & 28, Feb 25, Mar 17, Apr 7 (Snow date Mar 10) (Thurs 4:30-7:30 pm)

Year 3: Geometry & Measurement
Summer Institute: July 18–29, 2016

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/esea-title-ii-part-b

Project Staff

Melissa Mohan, Project Coordinator    mohanm@uw.edu
Meghan Steinmeyer, Project Evaluator  meghanba@uw.edu
Dr. Curtis Jones, Project Evaluator   jones554@uw.edu
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Center for Mathematics and Science Education Research (CMSER)
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

UWM Curriculum & Instruction
Dr. DeAnn Huinker    huinker@uw.edu
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UWM Mathematical Sciences
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UWM CMSER
Ms. Connie Laughlin      laughlinconnemi@gmail.com

School District of South Milwaukee
Ms. Beth Schefelker    bschefelker@sdsm.k12.wi.us
Mr. Joe Giera         jgiera@sdsm.k12.wi.us

School Year 2015–2016, Core Math Partnership Project 1
To protect the learning environment for all participants, please 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 560 (UWM course, Spring 2016)
- **Title:** Improving Mathematics Teaching and Learning: High-Leverage Practices: Part 2
- **Credits:** 2 graduate credits
- **Instructors:**
  - Dr. DeAnn Huinker [huinker@uwm.edu](mailto:huinker@uwm.edu)
  - Dr. Kevin McLeod [kevinm@uwm.edu](mailto:kevinm@uwm.edu)
  - Beth Schefelker [bschefelker@sdsm.k12.wi.us](mailto:bschefelker@sdsm.k12.wi.us)
  - Connie Laughlin [laughlinconnie@gmail.com](mailto:laughlinconnie@gmail.com)
  - Joe Giera [jgierr@sdsm.k12.wi.us](mailto:jgierr@sdsm.k12.wi.us)

- **Dates:** Sept 10, Sept 24, October 22, Nov 12, Dec 3, Jan 7 & 28, Feb 25, Apr 7 (Snow date Mar 17)
- **Time:** Thursdays, 4:30–7:30 pm
- **Location:** LGI Room, Cudahy High School, 4950 S. Lake Drive, Cudahy, WI 53110

**Course Objectives**

- Deepen understanding of standards and developmental learning progressions for Grades 5 - 8 domains of Fractions (NF), Ratio and Proportion (RP) and Expressions and Equations (EE) from the *Common Core State Standards for Mathematics* (CCSSM).

- Further student learning related to learning operations, developing algebraic reasoning, and using mathematical practices (e.g., equality, operation meanings and relationships, properties of the operations, structure, general methods, algorithms, solving one-step and multi-step word problems, solving equations).

- Strengthen classroom implementation of high-leverage teaching practices (e.g., representations, discourse/talk moves, questioning, procedural fluency/conceptual understanding, and productive struggle/mindsets).

**Required Texts and Readings**


- National Governors Association & Council of Chief State School Officers. (2010). *Common core state standards*
Other required readings will be distributed in class, through email or Google Drive, or assigned as website links.

### Class Schedule

| Time: Thursday, 4:30–7:30 pm |
| Location: LGI Room, Cudahy High School, 4950 S. Lake Drive, Cudahy, WI 53110 |

Tentative schedule of major topics and due dates for major assignments.

<table>
<thead>
<tr>
<th>Fall Project Sessions</th>
<th>Spring Project Sessions</th>
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<tbody>
<tr>
<td>Sept 10</td>
<td>Jan 7</td>
</tr>
<tr>
<td>Overview of RP</td>
<td>Graphing proportional relationships (7.RP.2abd)</td>
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<tr>
<td>Number talks project review/clarification</td>
<td>Number talks</td>
</tr>
<tr>
<td>Sept 24</td>
<td>Jan 28</td>
</tr>
<tr>
<td>Tape Diagrams</td>
<td>Multi-step ratio problems (7.RP.3)</td>
</tr>
<tr>
<td>Number talks feedback and discussion</td>
<td>Number talks</td>
</tr>
<tr>
<td>Oct 22</td>
<td>Feb 25</td>
</tr>
<tr>
<td>Unit rate; ratio and rate reasoning (6.RP.2, 6.RP.3abd)</td>
<td>Due: Part B: Number Talk Logs</td>
</tr>
<tr>
<td>Number talks</td>
<td>Looking towards EE (7.RP.2c, 8.EE.5, 8.EE.6)</td>
</tr>
<tr>
<td>Nov 12</td>
<td>Apr 7</td>
</tr>
<tr>
<td>Ratio reasoning and percents (6.RP.3c)</td>
<td>Due: Part A: Number Talk Project</td>
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<tr>
<td>Number talks</td>
<td>Due: Student Work Analysis Project</td>
</tr>
<tr>
<td>Dec 3</td>
<td>Snow date: March 17 (if needed)</td>
</tr>
<tr>
<td>Unit rates associated with fractions (7.RP.1)</td>
<td>Content summary and wrap-up</td>
</tr>
<tr>
<td>Number talks</td>
<td>Closing Activities</td>
</tr>
<tr>
<td></td>
<td>Project Evaluation</td>
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</tbody>
</table>

Slides, homework assignments, and many handouts will be posted on the project website: [uwm.edu/coremath](http://uwm.edu/coremath)

Other handouts and documents will be posted in the project Google Doc Folder or made available on request.

### 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 two-credit course, the expected time commitment from students is approximately 96 hours (2 credits x 48 hours per credit earned). Students should spend approximately 30% of the time participating in class sessions, 25% completing assigned readings, written reflections, homework tasks; and online discussions; 25% in classroom implementation of course content; 5% completing project evaluation forms; and 15% 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 restrict 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 formal papers. Keep a copy of all submitted assignments in case assignments are misplaced or clarification is needed.

**Electronic Submission of Assignments:** 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-dec14.docx.

**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 (examination, project, paper, performance or other product or demonstration as appropriate to the course). No separate examination period is established for this course; the final assessment requirement will be conducted on the last scheduled day of the course. Specific details will be discussed in class.

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**Course Assignments and Grading**

**Course Grading**

<table>
<thead>
<tr>
<th>Course Requirement</th>
<th>Percent of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Attendance</td>
<td>10% per unexcused absence</td>
</tr>
<tr>
<td>2. Participation in Class Sessions</td>
<td>10%</td>
</tr>
<tr>
<td>3. Homework: Tasks, Readings, Reflections</td>
<td>25%</td>
</tr>
<tr>
<td>4. Project A: Number Talk Log</td>
<td>15%</td>
</tr>
<tr>
<td>5. Project B: Number Talk Project</td>
<td>15%</td>
</tr>
<tr>
<td>6. Project C: Student Work Analysis Project</td>
<td>25%</td>
</tr>
<tr>
<td>7. Completion of Core Math Partnership Project Evaluation</td>
<td>10%</td>
</tr>
</tbody>
</table>

Grades will be assigned on the following scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<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>

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**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. If you must be absent, “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 absence.

Excused absences must be documented by providing a written explanation, preferably in advance of the absence by email to Melissa Mohan (mohanm@uwm.edu). Verbal conversations will not be document and will not be 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. A make-up assignment, as well as any work done in class, is expected to be completed for each absence.

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.

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. Restraining yourself and your colleagues from side bar conversations as active listening and reflection are important aspects to your own learning in this course.

3. **Homework: Tasks, Readings, Reflections (Due the following class session.)**

Homework will be assigned during each project session. The purpose of homework is to extend and deepen your engagement with course content and to prepare for the next class session. Homework will include, but is not limited to, assigned readings, written reflections and summaries, viewing of video clips, collection of student work samples and perceptions, and math tasks.

4. **Project 1: Number Talks (Part A due April 7; Part B due February 25)**

   **Part A. Number Talk Project**

   You will be asked to create a series of Number Talks developing understanding of Fractions, Ratio and Proportion or Expressions and Equations. Identify a unit in your curriculum that would provide the best opportunity for students to engage in Number Talks focused on making sense of your chosen Domain. The talks should be connected to your grade level standards and should follow a progression. You will be asked to complete 5 templates focused on these ideas. You will write a brief summary of the implementation of these Number Talks and reflection on your learning as an instructor as well as insights gained by your students. Please consider taking pictures of charts that you make, videotaping student discussions, or submitting student work that reflects growth in understanding around your chosen Domain. This will be due April 7th.

   **Part B. Number Talk Log**

   The goal of number talks is to develop computational fluency and mental arithmetic of numbers. It is expected that Number Talks be done several times a week to develop the fluency. To support your work implementing Number Talks, bring 2 completed entries from your Number Talk log to each class period. Each entry should reflect the mathematical goal for the Number Talk, the number strings developed to reach the goal and a brief reflection on the outcome of the Number Talk. Your complete log for the year will be collected on February 25th.

5. **Project 2: Student Work Analysis Project (Due: April 7)**

In order to extend your understanding of Analyzing Student Work, you will be engaged in a Pre and Post analysis of student work that reflects the development of student understanding of Fractions, Ratio and Proportion or Expressions and Equations. The Pre-assessment task should be completed and brought to the September 24th class. You will analyze the results and use the information to identify instructional moves that will strengthen student understanding of Fractions or Ratio and Proportional Relationships or Expressions and Equations. A brief reflection on the students’ work along with post assessment analysis will be completed by April 7th. You will be asked to submit student work samples from both pre and post assessments. More details will be provided at a later date.
6. **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/vecu/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. It is your responsibility to submit all required work by this date to the instructor and ensure she or he has received it. On that date, the instructor will submit a grade based on currently submitted work. 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:** The following policies are specific to the Core Math Partnership grant.

**Classification Status:** You must have the same UWM classification for all courses in which you enroll within the same semester. This includes having either undergraduate or graduate status. 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.

**Tuition Status:** Likewise, you may not have dual tuition status within the same semester. If you concurrently enroll in both on-campus and off-campus courses, your tuition will be assessed at the higher on-campus rate. 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 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