

Graduate Credit Requirements: **PRDV 75828 Math Practices in *Investigations 3***

Course Title: PRDV 75828 Math Practices in *Investigations 3*

Number of Credits: 2

Instructor of Record: Karen Economopoulos

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Course Information

- **Dates & Times:**
 - July 12-13, 2018 & July 23-24, 2018 8:00am-4:00pm
OR
 - July 23-July 26, 2018; 8:00 am – 4:00 pm
 - All required assignments submitted by August 9, 2018
 - Final Grades posted on August 23, 2018
- **Location:**
 - Arlington High School, 869 Massachusetts Ave. Arlington, MA
- **Format:**
 - This is a 4-day intensive Institute which includes an expected 1.5-2 hours of reading and 1.5 hours of writing time per night during the Institute days and the following week. This additional reading and writing supports the 8-10-page paper, due no later than **August 9, 2018**.
 - Attendance at all sessions is a mandatory requirement for graduate credit. Full participation in all sessions is expected of all students enrolled for graduate credit.

Required Text:

Students will purchase one of the following depending on grade level of interest:

- **Grades K-2:**
 - Flynn, M. (2016) *Beyond Answers: Exploring Mathematical Practices with Young Children*. Portland, ME: Stenhouse. ISBN: 978-1-57110-902-6
 - Available at: <https://www.stenhouse.com/content/beyond-answers>
- **Grades 1-5**
 - Russell, SJ, Schifter, D., Bastable, V. (2011) *Connecting Arithmetic to Algebra: Strategies for building algebraic thinking in the elementary grades*. Portsmouth, NH: Heinemann. ISBN 978-0-325-04191-1
 - Available at: <https://www.heinemann.com/products/e04191.aspx>

Course Schedule (4 days)

Day	Session 1	Session 2	Session 3
1	MP1 in the context of geometry.	MP5 in the context of geometry	MP1 and MP5 in the context of place value.
2	MP3 in the context of whole numbers	MP3 in the context of fractions	MP6 in all content areas
3	MP7 and MP8 in the context of number and operations	Mathematical structure throughout the curriculum	MP7 and MP8 in the context of geometry
4	MP2 in the context of number and operations	Modeling throughout the curriculum	MP4 in the context of data

Course Requirements for Graduate Credit

Participants who are taking the Institute for Graduate Credit are responsible for the following:

- attend and participate in all course sessions
- complete and submit daily reading and writing assignments no later than **August 2, 2018**.
- write an 8-10 paper; typewritten, double-spaced, 12-point font; due not later than **August 9, 2018**.
- Submit all assignments via Google Classroom

Course Assignments

Homework July 23, 2018 (MP Institute: MPs 1, 3, 5, 6)

Reading:

- “*Investigations 3: Making Sense of and Persevering with the Mathematical Practices*” by Deborah Schifter and Susan Jo Russell

Select one of the following readings:

- *Beyond Answers: Exploring Mathematical Practices with Young Children* by Mike Flynn
 - Introduction, Chapters 1 and 5
- *Connecting Arithmetic to Algebra: Strategies for Building Algebraic Thinking in the Elementary Grades*, by Schifter and Russell
 - Chapters 1, 2, and 3

Writing

Address the following based on the day’s workshop activities, discussions, and reading assignment.

- Summarize what stands out for you about MP 1 and MP5
- Specify questions you have about MP1 and MP5
- Identify a commitment you plan to incorporate in your teaching practice in order to engage and support students in MP1 and MP5

Homework July 24, 2018 (MP Institute: MPs 1, 3, 5, 6)

Reading:

Select one of the following:

- *Beyond Answers: Exploring Mathematical Practices with Young Children*
 - Chapters 3 and 6
- *Connecting Arithmetic to Algebra: Strategies for Building Algebraic Thinking in the Elementary Grades*
 - Chapters 4 and 5

Writing

Address the following based on the day's workshop activities, discussions, and reading assignment:

- Summarize what stands out for you about MP 3 and MP6
- Specify questions you have about MP3 and MP6
- Identify a commitment you plan to incorporate in your teaching practice in order to engage and support students in MP3 and MP6

Homework July 12, 2018 or July 25, 2018 (MP Institute: MPs 2, 4, 7, 8)

Reading:

Select one of the following:

- *Beyond Answers: Exploring Mathematical Practices with Young Children*
 - Chapters 7 and 8
- *Connecting Arithmetic to Algebra: Strategies for Building Algebraic Thinking in the Elementary Grades*
 - Chapters 6 and 8

Writing

Address the following based on the day's workshop activities, discussions, and reading assignment:

- Summarize what stands out for you about MP 7 and MP8
- Specify questions you have about MP7 and MP8
- Identify a commitment you plan to incorporate in your teaching practice in order to engage and support students in MP7 and MP8

Homework July 13, 2018 or July 26, 2018 (MP Institute: MPs 2, 4, 7, 8)

Reading:

Select one of the following:

- *Beyond Answers: Exploring Mathematical Practices with Young Children*
 - Chapters 2 and 4
- *Connecting Arithmetic to Algebra: Strategies for Building Algebraic Thinking in the Elementary Grades*
 - Chapters 7 and 10

Writing

Address the following based on the day's workshop activities, discussions, and reading assignment:

- Summarize what stands out for you about MP2 and MP4
- Specify questions you have about MP2 and MP4
- Identify a commitment you plan to incorporate in your teaching practice in order to engage and support students in MP2 and MP4

Final Paper:

- write an 8-10 paper; free of grammatical and spelling errors, typewritten, double-spaced, 12-point font; due not later than August 9, 2018. The paper should:
 - include a reflection on the Mathematical Practices and how they pertain to the K-5 classroom

- discuss how the readings and experiences in the sessions informs and supports your work as a practitioner
- describe how you plan to implement the CCSS Math Practices using *Investigations 3* in order to support student engagement in the Math Practices.
- Select one of the Math Practices. Reflect on and describe, an example of how the selected MP, was enacted or could be enacted in your grade level. How do you/will you support the development of and student enactment of this MP? What resources in *Investigations* will you draw on to support your work and work of your students?
- incorporate evidence from reading and writing assignments throughout the paper

Grading Criteria

- **40% Participation and In-Class Assignments** – Students must engage with the activities, solve the problems, listen and share in their groups, and actively engage in whole group discussion.
- **30% Homework Reading and Written Reflections** – Students must submit written reflections that reflect an understanding of the assigned reading. Evidence of reading and excerpts from written reflections should be cited/incorporated into the final paper
- **30% Paper** – The paper should be based on session activities including: math activities, readings, video, and study of curriculum materials. It will include what participants learned about themselves as mathematics learners and facilitators of learning and plans to incorporate what they have learned about the CCSS Math Practices into their classroom practice.

Academic Honesty Policy

- Students who register for this course agree to “maintain high standards of academic honesty and scholarly practice. They shall be responsible for familiarizing themselves with the published policies and procedures regarding academic honesty. Academic honesty requires but is not limited to the following practices: appropriately citing all published and unpublished sources, whether quoted, paraphrased, or otherwise expressed, in all of the student’s oral and written, technical and artistic work.”
- Please also refer to the Framingham State University Graduate Catalog at <http://www.framingham.edu/graduate-and-continuing-education/documents/grad-catalog-0910.pdf>.

Academic Accommodations Policy

- “Framingham State University offers equal opportunities to all qualified students, including those with disabilities and impairments. The University is committed to making reasonable accommodations as are necessary to ensure that its programs and activities do not discriminate, or have the effect of discriminating, on the basis of disability. Academic Support serves students with learning and psychiatric disabilities as well as students with visual, mobility and hearing impairments. For further information, please visit the website at <https://www.framingham.edu/academics/center-for-academic-success-and-achievement/disability-access-services/index>

