

George Mason University

GMU COMPLETE MATH:

Center for Outreach in Math Professional Learning and Educational Technology

COS & CEHD

MATH 600:6M3 & 6M4

Unpacking the Curriculum and Teaching Practices through Rich Tasks

Summer 2018 Professional Development Outreach Course

Instructors:

Patricia Freeman: pwfreeman@fcps.edu

Dr. Melissa Gallagher: mgallagher@louisiana.edu

Keira Godwin: kjgodwin@fcps.edu

Lesley King: lking3@gmu.edu

Course Organizers:

Dr. Jennifer Suh jsuh4@gmu.edu

Dr. Padmanabhan Seshaiyer pseshaiy@gmu.edu

I. Course Description:

Assessing Mathematical Learning Through Task Design and Implementation

This course focuses on developing and implementing tasks while considering the learning progressions in grades 5-9 through mathematical inquiry.

Meeting dates:

Face-to-face sessions:

Summer: July 30-August 3, 2018, 8:30am-3:00pm

Fall: Thurs. September 6th, 27th from 5:15-7:45 pm

Online session:

September 20th

II. Student Outcomes

At the conclusion of this course, students should be able to:

1. Articulate and enact methodologies for teaching mathematics more effectively to children with various abilities in Grades 5-9, specifically the 8 effective teaching practices from Principles to Actions.
2. Teachers will intentionally plan for the enactment of the practices within individual lessons and across a unit.
3. Teachers will use video to reflect on their enactment of the practices.

4. Teachers will attend to, interpret, and respond to peers' enactment of the practices using a video annotation platform (GoReact).

III. Nature of Course Delivery

The delivery of this course combines methods of seminar, online sessions, active learning, discussion, independent work, student presentation, mathematical problem solving, and writing. The course is designed both in structure and process to engage students in dialogue at the individual, group, and collective levels. Different formats will be used to help build the capacity of the learning community. Readings and lectures will precede and focus class online discussions and interactive forums. This course relies on your willingness to participate in all class and team discussions. You will be asked to complete daily reading assignments and related problems and offer key ideas on how the readings and problems inform professional experience. The syllabus lays out an initial plan for our work and may be revised during the course to meet students' needs and interests. Students are expected to be independent thinkers, intellectually curious, and responsible to each other for the quality of classroom learning. This calls for both purposeful collaborative work as well as deep individual reflection. The course is designed to enhance both of these skill sets. You should expect to spend time between classes reading/viewing/listening to assigned materials, completing assignments, completing reflections, solving problems, and participating in substantive online discussions.

IV. Readings:

National Council of Teachers of Mathematics (NCTM). (2014). *Principles to action: Ensuring mathematical success for all*. Reston, VA: NCTM

V. Course Requirements and Assignments

The assignments across the course are intended to improve your strategies as a mathematics teacher and to develop your skills in fostering rich task design and implementation. All assignments are to be completed on time so that class members might benefit from the expertise and contributions of their colleagues.

A. Participation, Homework, Short Lesson Plans, and Reflection (40%)

Class sessions will consist of a discussion of the readings and related problems. Readings are to be completed before each class session. Students are expected to analyze and reflect on the readings and come to class prepared to participate in the discussion. Nightly assignments will be given. Students are expected to complete these assignments before class and be ready to share and discuss how problems fit into the state standards and offer the opportunity to highlight particular teaching practices.

Abbreviated lesson plans for the daily PtAs will be uploaded to the course Blackboard site's Discussion Board.

As a grade-level group you will create a collection of tasks to support and enrich a unit plan for a unit that you will begin this school year. Your unit plan will include a narrative description of the unit, the standards covered by the unit, and tasks the unit. You will specify at least 5 specific tasks, including the state standards and PtA practices they will highlight.

B. INDIVIDUAL: Implementing a Rich Task and Reflecting on GoReact (30%)

The purpose of this assignment is for teachers to analyze and incorporate the NCTM *Principles to Actions* eight Effective Mathematics Teaching Practices into rich task design and implementation in their own classrooms. Teachers will submit a lesson plan, blackline master of their rich task, and video of their implementation. The lesson plan template and reflection prompts will be posted on Blackboard. Individually, teachers will upload a short video clip on GoReact showing evidence of one of the eight practices and then comment on their video to reflect on the practice in focus. In addition, members of the collaborative team will comment on the video. A Blackboard assignment will guide participants through completing and turning the assignment.

C. COLLABORATIVE: Curriculum Analysis and Task Design (30%)

During the course, participants will work with collaborative grade level groups to find or create rich tasks focusing on each of the eight Mathematics Teaching Practices and incorporating the VDOE 2016 Mathematics Standards of Learning. Team members will share tasks that they create or find with each other and create initial implementation plans for the tasks following Smith and Stein's *5 Practices for Orchestrating Productive Mathematics Discussions* (anticipate, monitor, select, sequence, connect).

VI. Evaluation Schema

Determination of the Final Grade:

Graduate Grading Scale

A	93%-100%	B+	87%-89%	C	70%-79%
A-	90%-92%	B	80%-86%	F	Below 70%

VII. UNIVERSITY POLICIES

The university has a policy that requests students to turn off pagers and cell phones before class begins.

HONOR CODE

To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of George Mason University and with the desire for greater academic and personal achievement, George Mason University has set forth a code of honor that includes policies on

cheating and attempted cheating, plagiarism, lying and stealing. Detailed information on these policies is available in the GMU Student Handbook, the University Catalog, and on the GMU website (www.gmu.edu).

INDIVIDUALS WITH DISABILITIES POLICY

The university is committed to complying with the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 by providing reasonable accommodations for applicants for admission, students, applicants for employment, employees, and visitors who are disabled. Applicants for admission and students requiring specific accommodations for a disability should contact the Disability Resource Center at 703-993-2474, or the University Equity Office at 703-993-8730.

ATTENDANCE POLICY

Students are expected to attend the class periods of the courses for which they register. Although absence alone is not a reason for lowering a grade, students are not relieved of the obligation to fulfill course assignments, including those that can only be fulfilled in class. Students who fail to participate (because of absences) in a course in which participation is a factor in evaluation, or students who miss an exam without an excuse, may be penalized according to the weighted value of the missed work as stated in the course syllabus (GMU University Catalog, pg. 32).

1. GMU Policies and Resources for students

Policies

- a. Students must adhere to the guidelines of the Mason Honor Code (see <http://oai.gmu.edu/the-mason-honor-code/>).
- b. Students must follow the university policy for Responsible Use of Computing (see <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- c. Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.
- d. Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <http://ods.gmu.edu/>).
- e. 5. Students must silence all sound emitting devices during class unless otherwise authorized by the instructor.

Campus Resources

- f. Support for submission of assignments to Tk20 should be directed to tk20help@gmu.edu or <https://cehd.gmu.edu/aero/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursessupport.gmu.edu/>.
 - g. For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>
2. For additional information on the College of Education and Human Development, please visit our website <http://cehd.gmu.edu/>.

PROFESSIONAL DISPOSITIONS

Students are expected to exhibit professional behaviors and dispositions at all times.

CORE VALUES COMMITMENT

The College of Education Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles. <http://cehd.gmu.edu/values/>

For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website [See <http://gse.gmu.edu/>]