

Teaching Internship Seminar (Mathematics Section)
15:255:536 (section 09)
3 Credits

Instructor: Juan Pablo Mejia-Ramos	pablo.mejia@gse.rutgers.edu
Phone Number 732 932 7496 ext 8153	10 Seminary Pl Rm 234
Office Hours: by appointment	Prerequisites or other limitations: A student should be in an EdM+Cert degree program in mathematics
Mode of Instruction: <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Seminar <input type="checkbox"/> Hybrid <input type="checkbox"/> Online <input type="checkbox"/> Other	Permission required: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Directions about where to get permission numbers: from the instructor

Learning goals

The goals of the course are to learn how to plan, implement, and reflect on classroom instruction in mathematics that engages all students in productive and meaningful learning of mathematics content and practice. Achievement of those goals includes mastering time management, emotional control, mathematical skills, listening to students, and, most importantly, communication skills (communication with students, cooperating teacher, parents and school administration). Additional goals include continued improvement of one's own mathematics understanding and acquisition of additional strategies that engage diverse learners in mastering mathematics (content and practices).

Course catalogue description

The goal of the course is to support student teaching of pre-service mathematics teachers. The course will focus on listening to the students, preparation of unit plans, lesson plans, and reflection on teaching.

Class materials:

Common Core State Standards - Mathematics
 A high school text that you are using in your school.

Grading and Activities Your course final grade will be based on attendance, participation in the discussions, reflection on teaching, lesson plans, quizzes and exams that you will design, video analysis of your lesson, a research project, and teaching portfolio. Each assignment can be improved, as many corrections as needed are encouraged. Note that I will not assign you a course grade before you submit all required portfolio items (teaching philosophy, classroom management plan, lesson and unit plan, and parent-teacher reflection).

Activity

Attendance, participation	20%
Reflection on teaching	20%
Unit plan	20%
Lesson plan	20%
Parent-Teacher Reflection paper	20%

Description of activities

Attendance, participation in class discussions: Each week you will meet and discuss your experiences during student teaching, design lesson plans, assessment activities, and how to use equipment. Attendance and participation in these meetings (and in the online forum) will be a basis for your course grade. In Lesson Plan addition in every class we will spend 1 hour working on the learning and teaching of the content that we did not touch in our previous classes.

Reflection on teaching: You will keep a reflective journal during your teaching. It should consist of pre-post teaching reflection on one lesson per day; reflection using 4-5 rows of the rubric for self-assessment of teaching. Make sure that you write reflections EVERY day; do not save them for Saturday. The most difficult thing is to record what student understanding looked like, so do not wait till you forget it! At the end of the week, you will choose ONE lesson to Pablo on Sunday night. Although you will be sending one lesson reflection, you should write reflections every day.

Components of the reflection: ***Before teaching:*** 1. What do I plan to accomplish? 2. How will I know that students are learning? 3. What are the strengths of the students that I plan to build on? 4. What are potential weaknesses? ***After Teaching:*** 1. What did I accomplish? What were my strengths and weaknesses? 2. What did student understanding look like? A specific example of what a student said or did that showed you that the student understood. 3. What were their strengths? A specific example. How do you plan on building on those? 4. What were their weaknesses? A specific example. What did you do or what you planned to do about those? 5. What would I change in the lesson next year?

Unit and Lesson plan: At the beginning of the semester you will design a unit plan for a unit that you will teach later, with a detailed lesson plan of one of the lessons. After you teach the unit you will write a detailed reflection on it, including the reflection on one lesson whose lesson plan you submit. We will discuss the unit and lessons in class, and later discuss the results of formative and summative assessment. Student work without names should be provided for one formative assessment of that unit and the final summative assessment. You will bring student work to class with the examples of your feedback. Deadline for a complete unit plan is October 3 and for the lesson plan is October 24. The unit and lesson plan will be uploaded on the Sakai website.

Parent/Guardian-Teacher Reflection paper: For your last assignment, you should observe and, if possible, participate in teacher/student family interactions and activities. For example, you can observe and participate in parent/guardian-teacher conferences, Back-to-School night, informal interactions with parents, and materials disseminated to parents/guardians (such as materials regarding curriculum given to parents at Back-to School night and announcements or letters sent home to parents/guardians). You will then write a paper reflecting on these experiences, following the guidelines for this portfolio artifact.

Assessment instruments: You will use two of your assessment activities included in the unit (one summative and one formative) during class discussions. You will need to make copies of your student work with no names and use the copies for analysis in class. The activities themselves should be e-mailed to the members of the class in advance.

Teaching portfolio: At the end of the course you will upload all of the documents that are required for your teaching portfolio. These include the teaching philosophy statement, unit and lesson plan, parent-teacher conference document, and classroom management plan.

Academic integrity: Make sure that you provide proper citations for all materials that you use in your lesson and unit plans.

Course website: Materials for class will be posted on the class website.

Meeting schedule (by week)

Week	Topic	Assignment
1 (Sep. 5)	Introduction CCSS: Number and Quantity.	
2. (Sep. 12)	CCSS: Number and Quantity.	
3. (Sep. 19)	Discussion on Unit Plans. CCSS: Algebra	
4. (Sep. 26)	CCSS: Algebra.	
5. (Oct. 3)	CCSS: Functions.	
6. (Oct. 10)	Discussion on Lesson Plans. CCSS: Functions.	Unit Plan due
7. (Oct. 17)	CCSS: Modeling.	
8. (Oct. 24)	Resume Writing Workshop. CCSS: Modeling.	
9. (Oct. 31)	Discussion on Parent-Teacher collaboration. CCSS: Geometry.	Lesson Plan due
10. (Nov. 7)	CCSS: Geometry.	
11. (Nov. 14)	Interviewing Skills Seminar.	Parent-Teacher Reflection Paper due
12-13. (Nov. 21)	CCSS: Statistics and Probability.	
14. (Dec. 5)	Discussion on unit assessment instruments. CCSS: Statistics and Probability.	Reflection on unit/lesson due

Rubrics for self-assessment of teaching

Below is a list of abilities that you need to develop during student teaching. You can use the rubrics below to plan your lessons and self-assess them.

Ability	N/A	Well developed	Working towards it	Missed opportunity
		3	2	1
To start a lesson in an organized productive way		Students start working from the first second, everything is planned and no time is wasted.	The first seconds are spent unproductively but the lesson got on track within the first 3 min.	The beginning of the lesson did not lead to the organized, inspired work.
To create motivation for student learning		The content of the lesson is connected to student lives, or there is an interesting question, or motivation is created based on student success, students understand why they are doing what they are doing.	There is some attempt to motivate students but many do not know why they are doing what they are doing.	Motivation is based on “need for the test” or is absent.
To keep track of what every student is doing		The teacher scans the classroom often and notices subtle details of student learning activities and behavior; most students participate in the lesson and speak.	The teacher follows most of the students but misses a few, the omissions do not lead to the disruption of the lesson.	The teacher does not notice a crucial moment/s that leads to the disruption of the whole lesson; few students participate.
To help students develop study habits		A great deal of attention is given to building study habits: taking notes, planning learning, metacognition, drawing sketches and graphs, asking productive questions, time management.	Some attention is given to building study habits but it is not systematic.	No attention is given to study habits.
To use the board strategically		The board is a productive teaching tool that helps students organize their notes and follow the lesson,	The board is used but things are erased often, no ruler to draw graphs and other	The board is used randomly, it is clear that the teacher did not think it

		writing is clear, large letters, a ruler is used for the drawings and the whole lesson fits on one board.	pictures, hard to follow.	through.
To organize whole class discussion effectively		The teacher guides the discussion but does not dominate it, the summary is clear, lots of student-student talk, pauses for the students to take notes, main points are summarized on the board.	The discussion is two way mostly teacher-student-teacher, all summaries are done by the teacher, no time to take notes, the board is sketchy.	The teacher talks most of the time, students respond yes or no, the board is not used, no time or attention to notes.
To organize group work effectively		Students are used to working in groups, they arrange quickly, the teacher moves among the groups and group assignments are open-ended enough to promote fruitful discussions, white boards are used and all students participate; at the end there is a debriefing.	Students are used to working in groups but it takes some time to settle or group tasks are focused on one right answer, or white boards are not used productively, the teacher spends too much time with one group.	Students are not accustomed to working in groups, many do not participate, no debriefing, the teacher does not attend to all groups.
To manage time effectively		A productive sense of urgency is present, timing for activities is announced, the change of types of work occurs often but not too often.	The pace is either too slow or too fast.	The lesson drags.
To lead reflection effectively		All students participate, the reflection is focused on the important issues.	Few students participate, some comments are not useful.	Students reflect on non-important issues.
To assign homework effectively		The homework helps reinforce the past lesson or prepares for the future lesson, it is meaningful and instructions are clear.	The purpose of homework is unclear but the instructions are present.	No homework or no instructions.
To listen to the		The teacher listens and	The teacher	Student

students		responds to student comments productively.	listens but some responses are not productive.	comments are not noticed or ignored.
To use multiple representations		Multiple representations are used and are used productively.	Some representations are used productively.	Few representations are used and the purpose is unclear.
To use technology		Technology is used strategically.	Technology is used strategically sometimes.	Technology is used but is not really needed to improve learning.
To pose productive questions and to respond to students' questions		The questions are high level, responses to student questions are done through reflective toss technique, they lead to deep thinking, no wrong mathematics answers on the teacher's part.	The questions are mixed, students questions are answered directly, the teacher's mathematics is correct.	The questions are mostly yes/no, students' questions are ignored, or teacher's responses have incorrect mathematics.
To encourage students to generate productive questions		There is a mechanism through which students learn to generate good questions, the teacher models how to ask good questions, the atmosphere in class is conducive to students asking questions.	Students questions are rare but are treated with respect	There are no students questions.
To generate explanations		Students are continuously encouraged to explain and justify; students, not the teacher, evaluate provided explanations, students are encouraged to argue their point of view and multiple points of view are tolerated as long as the explanations are logical; the explanations provided by the teacher	Students sometimes are pressed for explanations but not always, the teacher evaluates explanations by saying good or ok, instead of tossing them back to students, the explanations provided by the teacher are ok	The teacher does not press for explanations, argumentation is not encouraged, the explanations provided by the teacher have mathematics mistakes.

		are correct from the mathematics point of view.	but not really deep.	
To build the lesson on students' ideas		The lesson plan takes into account student ideas documented in research and learned in course work and the lesson is continuously modified based on students' ideas emerging during the lesson	The lesson plan takes into account student ideas documented in research and learned in course work and but during the lesson students' ideas are largely go unnoticed	Students' ideas are not taken into account during the planning stage and are not used productively during the lesson.