

## Rutgers – The State University of New Jersey

### 15:255:536:09 Teaching Internship Seminar (Mathematics Section)

Fall 2014

Thursdays 4:30-7:30pm

SC 205, CAC

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

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentations: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

### Course Description

#### 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 practices. Achievement of those goals includes mastering time management, emotional control, mathematical skills, listening to students, communication skills, and other aspects of good teaching as identified in Charlotte Danielson's Framework for Teaching. Additional goals include continued improvement of one's own mathematics understanding and acquisition of additional strategies that engage diverse learners in mastering both mathematical content and practices in the Common Core State Standards.

## New Jersey Professional Standards for Teachers (2014)<sup>1</sup>:

**Standard Four: Content Knowledge.** The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches, particularly as they relate to the Common Core Standards and the New Jersey Core Curriculum Content Standards and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of the content.

### ii. Essential Knowledge

1. The teacher understands major concepts, assumptions, debates, processes of inquiry, and ways of knowing that are central to the discipline(s) he or she teaches;
3. The teacher knows and uses the academic language of the discipline and knows how to make it accessible to learners;
5. The teacher has a deep knowledge of student content standards and learning progressions in the discipline(s) he or she teaches;
7. The teacher understands the concepts inherent in numeracy to enable students to represent physical events, work with data, reason, communicate mathematically, and make connections within their respective content areas in order to solve problems.

### iii. Critical Dispositions

1. The teacher realizes that content knowledge is not a fixed body of facts but is complex, culturally situated, and ever evolving. He or she keeps abreast of new ideas and understandings in the field;
5. The teacher shows enthusiasm for the discipline(s) they teach and is committed to making connections to everyday life.

**Standard Seven: Planning for Instruction.** The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.

### i. Performances:

1. The teacher individually and collaboratively selects and creates learning experiences that are appropriate for curriculum goals and content standards, and are relevant to learners;
3. The teacher develops appropriate sequencing of learning experiences and provides multiple ways to demonstrate knowledge and skill;
4. The teacher plans for instruction based on formative and summative assessment data, prior learner knowledge, and learner interest;
6. The teacher evaluates plans in relation to short- and long-range goals and systematically adjusts plans to meet each student's learning needs and enhance learning.

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<sup>1</sup> <http://www.state.nj.us/education/code/current/title6a/chap9.pdf>

## **ii. Essential Knowledge:**

1. The teacher understands content and content standards and how these are organized in the curriculum;
2. The teacher understands how integrating cross-disciplinary skills in instruction engages learners purposefully in applying content knowledge;
3. The teacher understands learning theory, human development, cultural diversity, and individual differences and how these impact ongoing planning;
4. The teacher understands the strengths and needs of individual learners and how to plan instruction that is responsive to these strengths and needs;
5. The teacher knows a range of evidence-based instructional strategies, resources, and technological tools, including assistive technologies, and how to use them effectively to plan instruction that meets diverse learning needs;
6. The teacher knows when and how to adjust plans based on assessment information and learner responses.

## **iii. Critical Dispositions:**

1. The teacher respects learners' diverse strengths and needs and is committed to using this information to plan effective instruction;
2. The teacher values planning as a collegial activity that takes into consideration the input of learners, colleagues, families, and the larger community;
3. The teacher takes professional responsibility to use short- and long-term planning as a means of assuring student learning; and<sup>33</sup>
4. The teacher believes that plans must always be open to adjustment and revision based on learner needs and changing circumstances.

**Standard Eight: Instructional Strategies.** The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

## **i. Performances:**

1. The teacher uses appropriate strategies and resources to adapt instruction to the needs of individuals and groups of learners;
3. The teacher collaborates with learners to design and implement relevant learning experiences, identify their strengths, and access family and community resources to develop their areas of interest;
4. The teacher varies his or her role in the instructional process (for example, instructor, facilitator, coach, and audience) in relation to the content and purposes of instruction and the needs of learners;
5. The teacher provides multiple models and representations of concepts and skills with opportunities for learners to demonstrate their knowledge through a variety of products and performances;
6. The teacher engages all learners in developing higher order questioning skills and meta-cognitive processes;
7. The teacher engages learners in using a range of learning skills and technology tools to access, interpret, evaluate, and apply information

8. The teacher uses a variety of instructional strategies to support and expand learners' communication through speaking, listening, reading, writing, and other modes; and
9. The teacher asks questions to stimulate discussion that serves different purposes (for example, probing for learner understanding, helping learners articulate their ideas and thinking processes, stimulating curiosity, and helping learners to question).

**ii. Essential Knowledge:**

1. The teacher understands the cognitive processes associated with various kinds of learning (for example, critical and creative thinking, problem framing and problem solving, invention, and memorization and recall) and how these processes can be stimulated;
2. The teacher knows how to apply a range of developmentally, culturally, and linguistically appropriate instructional strategies to achieve learning goals;
3. The teacher knows when and how to use appropriate strategies to differentiate instruction and engage all learners in complex thinking and meaningful tasks;
4. The teacher understands how multiple forms of communication (oral, written, nonverbal, digital, and visual) convey ideas, foster self-expression, and build relationships;
5. The teacher knows how to use a wide variety of resources, including human and technological, to engage students in learning; and
6. The teacher understands how content and skill development can be supported by media and technology and knows how to evaluate these resources for quality, accuracy, and effectiveness.

**iii. Critical Dispositions:**

1. The teacher is committed to deepening awareness and understanding the strengths and needs of diverse learners when planning and adjusting instruction;
2. The teacher values the variety of ways people communicate and encourages learners to develop and use multiple forms of communication;
3. The teacher is committed to exploring how the use of new and emerging technologies can support and promote student learning; and
4. The teacher values flexibility and reciprocity in the teaching process as necessary for adapting instruction to learner responses, ideas, and needs.

**Council for the Accreditation of Education Professionals (2013)<sup>2</sup>:**

**Standard 1: Candidate Knowledge, Skills, and Professional Dispositions**

- 1.1 Candidates demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)<sup>2</sup> in the following categories: the learner and learning; content; instructional practice; and professional responsibility.

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<sup>2</sup> [http://caepnet.files.wordpress.com/2013/09/final\\_board\\_approved1.pdf](http://caepnet.files.wordpress.com/2013/09/final_board_approved1.pdf)

## **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  
Charlotte Danielson's Framework for Teaching  
PARCC Model Content Frameworks for Mathematics (grades 3–11). Version 3.0 (Nov. 2012)  
AchieveNJ: Student Growth Objectives Guidebook (2014-15)

**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 (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 Danielson's framework for assessing instruction (Domain 3). 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 of these five reflections and submit it on Sunday night using dropbox in sakai. 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.

**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 unit and lesson plan, parent-teacher conference document, and classroom management plan.

**Academic Integrity Policy:**

Any violation of academic honesty is a serious offense and is therefore subject to an appropriate penalty. Refer to <http://academicintegrity.rutgers.edu/integrity.shtml> for a full explanation of policies.

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

**Meeting schedule (by week)**

Week	Topics to be covered	Assignments
1 (Sep. 4)	Introduction (CCSS, PARCC, SGO, Danielson's Framework for Teaching)	
2. (Sep. 11)	Discussion on Unit Plans. DFfT: Domain 1. CCSS: Number and Quantity.	
3. (Sep. 18)	DFfT: Domain 1. CCSS: Number and Quantity.	
4.	DFfT: Domain 1.	

(Sep. 25)	CCSS and PARCC: Algebra.	
5. (Oct. 2)	Resume Writing Workshop Interviewing Skills Seminar.	Unit Plan due
6. (Oct. 9)	Discussion on Lesson Plans. DFfT: Domain 2. CCSS and PARCC: Algebra.	
7. (Oct. 16)	DFfT: Domain 2. CCSS: Functions.	
8. (Oct. 23)	DFfT: Domain 2. CCSS: Functions.	Lesson Plan due
9. (Oct. 30)	Discussion on Parent-Teacher collaboration. DFfT: Domain 3. CCSS: Modeling.	
10. (Nov. 6)	DFfT: Domain 3. CCSS and PARCC: Geometry.	
11. (Nov. 13)	DFfT: Domain 3. CCSS and PARCC: Geometry.	Parent-Teacher Reflection Paper due
12. (Nov. 20)	DFfT: Domain 4. CCSS: Statistics and Probability.	
13. (Nov. 25)	DFfT: Domain 4. CCSS: Statistics and Probability.	
14. (Dec. 5)	Discussion on unit/lesson assessment instruments.	