05:300:342 -SUPERVISED UNDERGRADUATE TUTORING IN
MATHEMATICS
SPRING 2014

CONTACT INFORMATION
Lecturer: Juan Pablo Mejia-Ramos
Office: GSE 234
Office hours: M 3:00pm-5:00pm, GSE 234
Office phone: 848-932-0806
E-mail: pablo.mejia@gse.rutgers.edu

GENERAL INFORMATION
Class meeting: Tuesdays 9:50am-11:10am, GSE-25B
Essay 1: 03/11
Essay 2: 04/29
Course website: Sakai

COURSE BACKGROUND AND OBJECTIVES
Most of your work in this class will consist of you serving as a tutor in a college algebra course and engaging in discussions about your tutoring encounters during in-person/online class sessions. I hope that the tutoring will provide you with valuable teaching experience and, perhaps more importantly, the structure of the course will give you the opportunity to reflect on this experience. At the end of this course, I also hope that you:

- understand specific difficulties that students have with algebraic concepts,

- deepen and strengthen your existing understanding of algebra, and

- develop new ways of teaching students algebra.

COURSE REQUIREMENTS
During this course, you are required to do the following:

1. **Act as a tutor in a non-credit bearing algebra class (640:025,027).**
   This will involve:

   - Attending the class at least once per week and preferably twice.
   - Establishing a time when students can come to see you for individual help. It is very important that this time should be convenient to the students. Before or after class in a nearby room is ideal. Office hours/tutoring sessions typically range between 1 and 2 weekly hours.

     Note: You should be proactive about meeting students. Advertise your tutoring services to students using distributable materials equivalent to business cards. Hold extra tutoring sessions before exams. Be creative! If you do not arrange this suitably, your experience in this course will be considerably impoverished.

1

- Additional activities, to be negotiated with the instructor. These may include:
  - Correcting or writing feedback for quizzes and tests as approved by course instructor.
  - Working with individual students or groups on mathematical tasks during class sessions.
  - Developing and/or implementing problems or activities.
  - Presenting sections of the material on the board.

  Note: It is your responsibility to initiate communication with the college algebra course instructors before attending the first class session. When you first meet your instructor, you should take time to talk with him or her about the tasks they would like you to be involved in. As the semester progresses, either you or the instructor might like to suggest that you try different tasks in order to give you a range of experiences as a student-tutor.

2. **Attend our seminars on specified Tuesdays**. In seminars, we will discuss your tutoring experience and assigned readings with a focus on students' difficulties in understanding algebraic concepts. You will also work together on mathematical tasks to deepen your existing mathematical understanding and improve your knowledge of links between different algebraic concepts.

3. **Write a journal entry for every discussion meeting.** All journal entries must be submitted as Word documents via the Sakai Dropbox. The deadline for electronic journal submissions is every Monday morning (9am) prior to all upcoming discussion meetings. For example, the first journal entry is due on Monday, February 10th by 9am. In each journal entry (1-2 pages, double spaced), you should describe at least one tutoring experience that you had since our previous discussion meeting. Your descriptions of the algebra tutoring experience(s) should consist of the following:

   - What difficulty did the student have?
   - What did you do to try to address the cause of this difficulty?
   - To what extent were you successful?
   - What, if anything, did you learn from this experience?
   - What do you think the root cause of the students' difficulty was (poor arithmetic skills, weak conceptual understanding, lack of motivation, math anxiety, etc.)?
   - What can be learned learned about teaching mathematics from this experience?

   Being unsuccessful is okay and often leads to worthwhile learning experiences for pre-service mathematics teachers. Tutoring this population of

students is hard. What difficulties did you have? What issues would you like advice on?

If you did not tutor any students during your office hours/tutoring sessions, you may consider writing about any individual interactions you may have had in the algebra class such as assisting with group activities or guiding a student through a specific problem. However, one-on-one tutoring interactions are more preferable for discussion in your journal entries. How will try to be more successful in recruiting students for your future office hour/tutoring sessions?

4. **Complete two course assignments.** For each assignment, you will have the opportunity to get feedback and make improvements before submitting the final paper. The following are brief descriptions of the two course assignments and their intended learning outcomes for you as mathematics educators:

   - Tutoring PD Plan: A short professional development plan that outlines appropriate tutoring interventions and strategies for a particular algebraic topic. Choose a challenging concept or procedure introduced in your algebra course thus far. If you were running a training session for future algebra student-tutors, what are some key tutoring recommendations that you would make to help struggling students understand this topic? What are some potential student difficulties that student-tutors can expect with this algebraic concept? How will your plan's designed tutoring intervention address these difficulties? In what ways can future student-tutors introduce or represent the concept in different ways that appeal to students' varying modes of understanding? Be sure to reference elements from your personal tutoring experiences, course activities/readings, and online discussion posts.

   - Reflection Paper: A critical analysis that highlights your educational growth as a student-tutor OR the tracked learning progress of a particular student throughout the algebra course. Each of these paper topics must be developed using specific references of tutored algebraic topics, your one-on-one tutoring experiences, and seminar/online discussions. This includes mention of employed teaching techniques, use of different forms of mathematical representation, skill-building support, possible in-class interventions, and so on.

     - For papers about your student-tutor development, consider the following questions: What are some initial struggles and challenges that you encountered as a studenttutor? Which algebraic topics proved to be most difficult to tutor and why? How did you overcome these instructional obstacles? Were they any major turning points in your experience as an algebra student-tutor? How has student-tutoring prepared you for your future role as a high school mathematics teacher?

– For papers about a student's algebraic learning progress, consider the following questions: What are some learning struggles and mathematical misconceptions that the student demonstrated? Were there any specific algebraic topics that the student found particularly difficult to understand? Why do you think so? How did the one-on-one tutoring sessions play role in the students growth as a mathematical learner? What are some critical learning moments that took place both during and outside of your tutoring sessions?

5. **Collect two feedback forms from your instructor**. You will be given feedback forms to give to your instructor and return to me. This will happen twice, once in the middle of the semester and again at the end.

GRADING

Your grade in this course will consist of your grades on each of the two course assignments, your class participation (both online and in seminar meetings), and your experience tutoring. Improper behavior in your college algebra classroom may result in a substantial penalty for your final grade, including failing the class. Please act appropriately in your college algebra classroom: show up for your appointments, arrive at least 10-15 minutes early to all algebra class sessions, treat your college algebra teacher with respect, behave professionally during weekly lectures, etc.

The following grading scheme lists all assignments and their respective weights in a student's final grade:

- Engagement in course discussions (both online and in seminar meetings): 20%.

- College algebra instructor feedback: 20%.

- Discussion Meeting Journal Entries: 20%.

- Tutoring Professional Development Plan: 20%.

- Final Reflection Paper: 20%.

ATTENDANCE & CLASS PARTICIPATION POLICIES:

1. **Class Attendance:** Seminars and discussion meetings provide pre-service mathematics teachers with practical and theoretical insights into the development of interactive, effective algebra tutoring interventions. Thus, a strong class attendance record allows students to take full advantage of the course's pedagogical offerings that will enhance their instructional approaches to challenging algebraic concepts and procedures. Students are fully responsible for all seminar/discussion meeting notes, peer discussions, and teaching activities/demonstrations missed during their absences.

   If a student intends on being absent from an upcoming seminar or discussion meeting, he/she must present a valid note from an academic dean, health practitioner, or other professional source to excuse the class absence. Such notes must be provided to the course instructor as soon as possible (ideally, one week prior to the missed session). As per the Rutgers University Health Services policy, medical excuse notes will not be provided by Rutgers Health Services for minor or common illnesses. Please refer to Rutgers University Health Services policy on medical excuse notes for absent students as they will not be accepted by the course instructor.

   If a student is absent from a seminar or discussion meeting for unforeseen circumstances (i.e. family death, serious injury), he/she must communicate this personal situation (via e-mail or in person) with the course instructor no later than 24 hours after the missed class. Appropriate arrangements for make-up assignments will be made during this instructor-student communication depending on the nature of the unexcused class absence. Class absences deemed unexcused by both the course instructor and Rutgers GSE Office of Academic Services are not entitled for make-up work and/or receiving missed Class Attendance credit.

2. **Class Participation:** During seminars and discussion meetings, student-tutors will engage in hands-on investigations and active reflections on appropriate tutoring strategies for the college algebra student population. Active class participation is defined as a students' full investment in weekly course proceedings in the five following ways:

   - critical and respectful attention to instructional materials presented by both the course instructor and fellow students (i.e. taking notes, asking questions),
   - engagement in full 80-minute seminars and discussion meetings as a valued classroom community member,
   - analytic and reflective contributions to discussions pertaining to tutoring experiences,
   - preparation for class responsibilities including journal entry sharing and seminar readings,

- collaborative, supportive involvement in group mathematical tasks and brainstorming activities.

CLASS MEETING SCHEDULE

Week	Date	Description	Assignment
January			
Week 1	Tues. 21	Introduction	
Week 2	Tues. 28	Class meeting	
February			
Week 3	Tues. 4	Online discussion	
Week 4	Tues. 11	Discussion meeting	
Week 5	Tues. 18	Online discussion	Draft of Essay 1 (optional)
Week 6	Tues. 25	Class meeting	Reading
March			
Week 7	Tues. 4	Online discussion	
Week 8	Tues. 11	Discussion meeting	Essay 1 & Feedback due
Week 9		**Spring Break**	
Week 10	Tues. 25	Online discussion	
April			
Week 11	Tues. 1	Class meeting	Reading
Week 12	Tues. 8	Online discussion	Draft of Essay 2 (optional)
Week 13	Tues. 15	Discussion meeting	
Week 14	Tues. 22	Online discussion	
Week 15	Tues. 29	Class meeting	Essay 2 & Feedback due

Syllabus subject to change