

MATH 123 - COURSE SYLLABUS

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MATH 123 is an academically-based community service (ABCS) course which provides the opportunity to Penn students to develop effective methods for teaching and understanding, to enhance their math communication skills, and to share their passion for math by teaching fundamental concepts to students in one of our partnership schools. At the same time, the course aims to academically engage local high school students, sharpen their math skills while getting them excited about the subject, and ultimately promote their interest in STEM.

High school partnership: This semester we will be working together with **Paul Robeson High School** in West Philadelphia.

Schedule: This class will meet on **TuTh 12-1:30pm** in FAG214. During one class period we will discuss lesson plans and activities for the upcoming sessions with high school students, and the other class period we will meet with the Robeson high school students. During these meetings you will work in small groups with the students. You will be with the same group for the entire semester and will be able to get to know your students and their specific needs over the course of the semester.

Lesson plans: We will form five groups, each of which will be in charge of preparing two lesson plans. The first five lessons will be on algebra topics that are covered on the Keystone exam and the last 5 lessons will be hands on practice for the Keystone. The preparation for each lesson plan will be a moving parts two week long process, proceeding as follows.

- The week before that lesson is taught, part of the class time will be a brainstorming session on ideas for that topic (which of course you are encouraged to think about in advance) and there will be an associated discussion on Slack.
- Next, the group that is in charge of that topic will use the input from everyone and come up with a lesson plan. They will then to go over their outline with me outside of class and I will help them finalize the plan.
- Next, the group will work together to finalize all the details and write a lesson plan.
- The following class meeting, the group in charge will have some time in class to present the lesson plan to everyone.
- The following meeting with Robeson students everyone will follow that lesson plan.

Means of communication: We will use Slack to communicate with our class and also with the high school students.

Clearance needed: The Commonwealth of Pennsylvania and the School District of Philadelphia requires that all students in this class obtain clearance to teach in the classroom through a criminal history background check if you have not obtained this through previous classroom outreach activities.

Grade Breakdown

Participation: 40% of your grade.

This includes your contribution to class discussions (live and over Slack) as well as your dedication to teaching the high school students. Both attendance and level of engagement in the discussions will be taken into account when calculating your grade. By taking this class, you are making a commitment to your students, so attendance is essential. If you need to miss classes or meetings due to extenuating circumstances, such as illness, family emergencies, circumstances that cause you to not have access to a good internet connection, please let me know promptly.

Two lesson plans: 30% of your grade.

The lesson plan development is described above. This will be a group effort and in general the entire group will receive the same grade, though there can be exceptions to that if not all members of the group put in the necessary effort and dedication to this very important task, which affects the entire class and your students.

Reflections and assignments: 15% of your grade.

Assignments will be posted on Canvas on an almost weekly basis throughout the semester. These will consist of reflections on the student meetings and reflections or discussions on readings. These will be either in the form of a short submission or in the form of adding comments to a Slack discussion. Other assignments will include but are not limited to mathematic proofs, lab refinement assignments, and other similar assignments, which will be guided by our developing work.

Final Reflection: 15% of your grade.

At the end of the semester, a longer reflection will be due, which will cover both your educational experience and your experience with the mathematical content.
