

Cougars and Houston Area Math Program



Dr. Mark Tomforde
University of Houston

Two afternoons per week, we bring students from nearby high schools to the UH campus for Math Lessons and Math Tutoring.

Math Lessons

- Different instructor each week, with UH students acting as facilitators
- Interesting mathematics not seen in high school to get students excited about math
- Interactive lessons, use of discovery based learning and projects, emphasize communicating ideas
- Each week we post pictures, materials from the lesson, and references to online resources for students to learn more

Math Tutoring

- one-on-one tutoring provided by UH students
- high school students can work on homework or ACT/SAT prep

CHAMP is currently in its third year.

Goals of CHAMP

We want the high school students in CHAMP to . . .

- (1) Graduate from High School.
- (2) Go to College.
- (3) Consider majoring in a STEM field.

STEM = **S**cience, **T**echnology, **E**ngineering, and **M**athematics

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Why Math?

- Standardized Tests (Math portion obstacle to high school graduation)
- ACT/SAT focus on Math and English
- Math is the foundation for all STEM courses
- Math builds critical thinking skills



Fall 2013



Spring 2014



Fall 2014



Spring 2015



Fall 2015

Schools: Hope Academy
Stephen F. Austin
KIPP Sunnyside
100% Minority
Over Half Female



Fall 2013



Spring 2014



Fall 2014



Spring 2015



Fall 2015

Facilitators are UH undergraduates and graduate students that volunteer their time

Tutors provided by

- *teach*HOUSTON (UH undergraduates training to be STEM teachers)
- UH Chapter of the National Society of Black Engineers (NSBE)
- UH Chapter of the National Society of Collegiate Scholars (NSCS)
- Math 3325 course
- Other undergraduate and graduate student volunteers

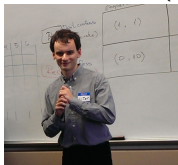
Each week's lesson is given by a different instructor.

We have had . . .

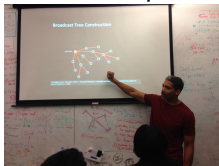
- Professors from the University of Houston



- Instructors from Reasoning Mind (a nonprofit for Math Education)



- A field trip to a Robotics Lab and lesson by a Robotician



Other CHAMP Activities

- End of the Year Banquet



- Tours of UH Campus
- Discussions on Applying to College (meet UH admissions staff, learn about FAFSA)

CHAMP

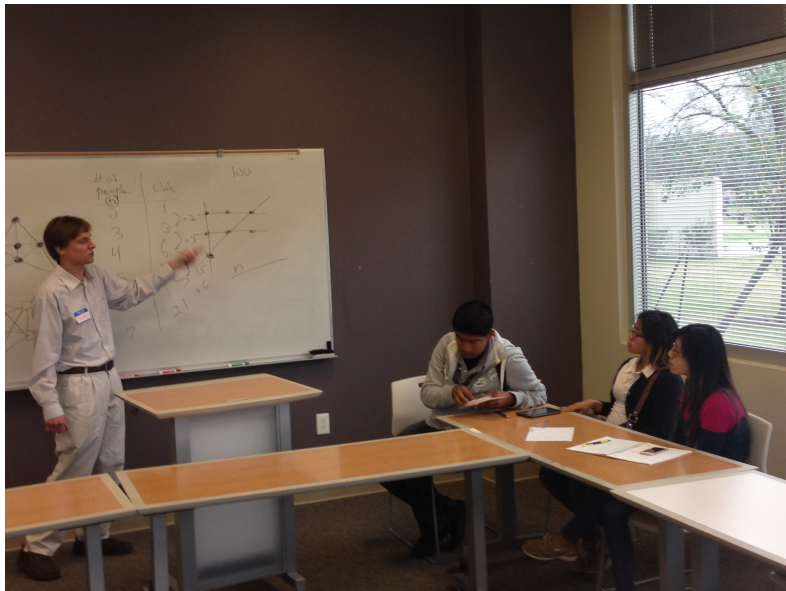
- CHAMP is run entirely with volunteers.
- We do fundraising and I have a small grant (\$4,500) to use for transportation, weekly food, T-shirts, and end-of-the-year banquet
- Benefits to High School students' educations
- Reciprocal benefits for UH students
- Builds community among UH professors, graduate students, and undergraduates
- Recruits high school students to apply to UH or to NSM programs such as SEP's Summer Bridge program

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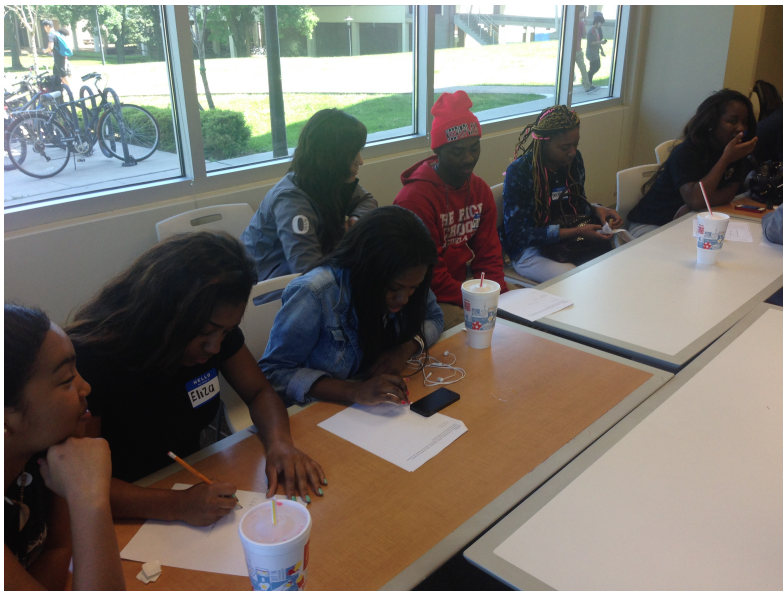
Future Needs

- transportation
- classroom space / parking / administrative support
- food







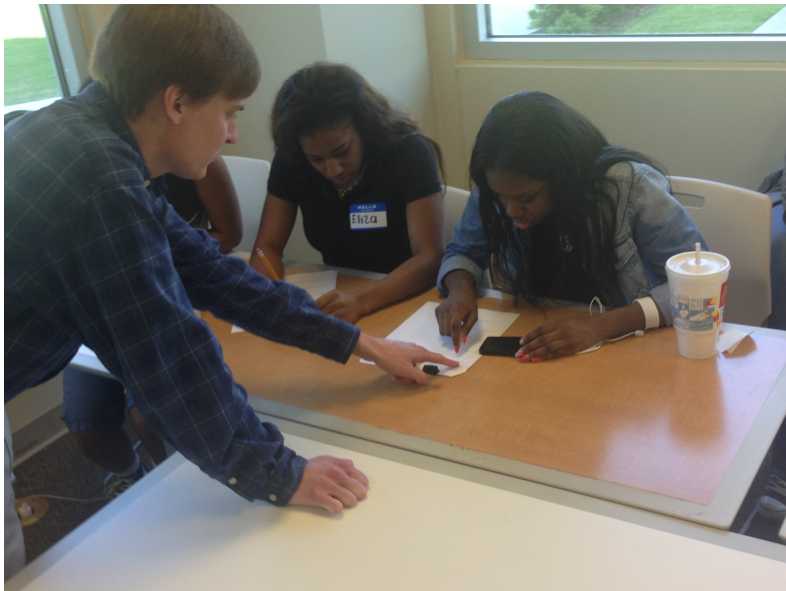






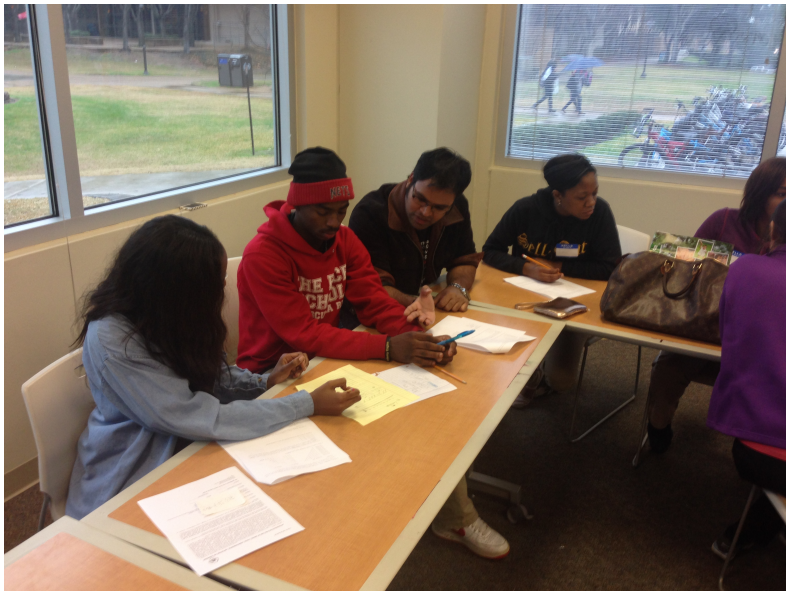










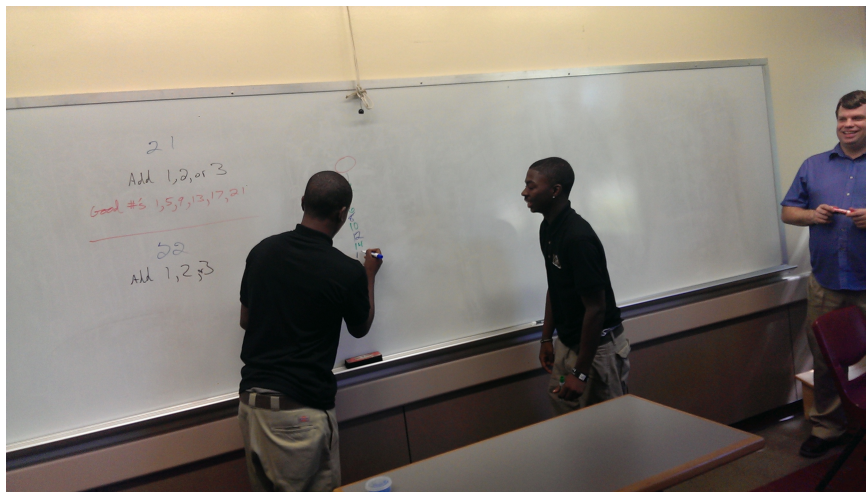




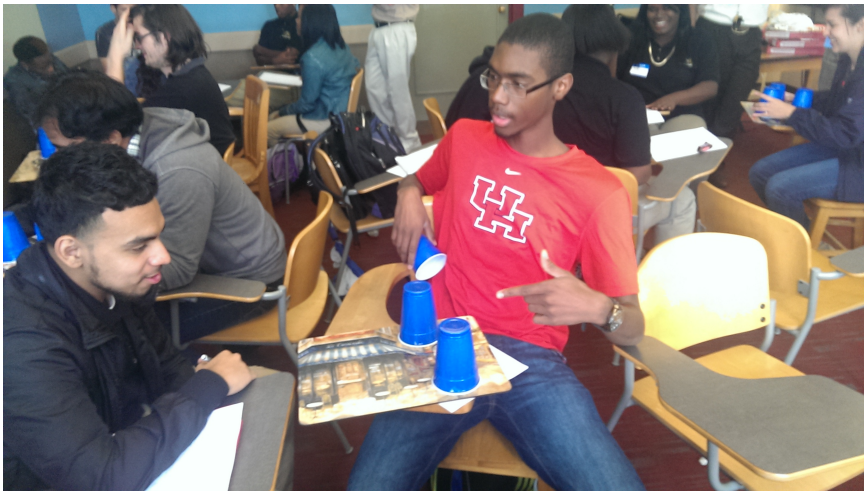




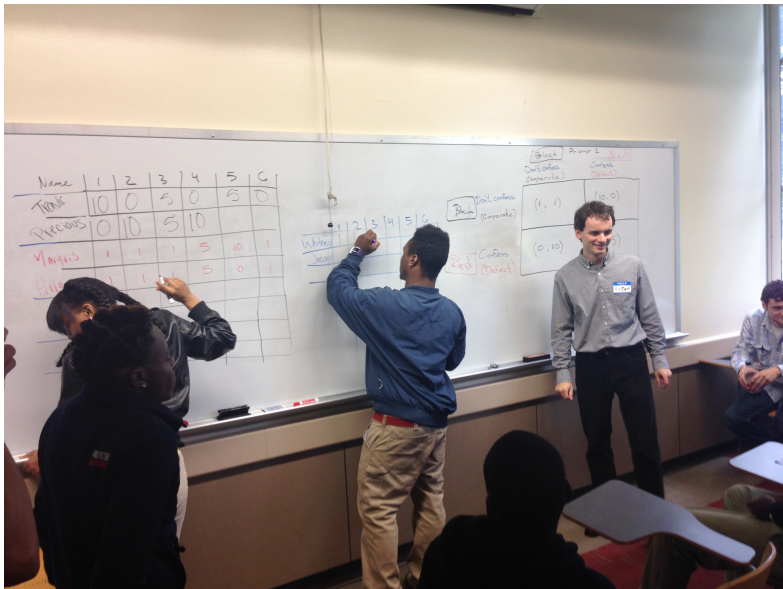














One day, due to sports try-outs, we had only the high school girls attend



The female facilitators led a discussion on “Women in STEM”.

We have more pictures, materials from the weekly lessons, and other information on the CHAMP website . . .

www.math.uh.edu/champ