

## **Math-Mentoring How-to:**

### **Description:**

1. Find students within the EES department (geology, environmental science) who would like to receive math-mentoring and find students who want to be math mentors
2. Pair these students up with math mentors. Math mentors are undergraduates within the EES department willing to mentor department underclassmen that are enrolled in a math course.
  - a. Math Mentor job description: Meet once weekly with mentee for ~1 (one) hour, help mentee with math homework, help mentee study, make sure mentee is keeping up with math assignments, fill out surveys, and communicate to Math-Mentoring Student Coordinator about mentee (See Mentor Guidelines).
3. Distribute required surveys to BOTH mentors and mentees and collect surveys
  - a. Surveys need to be stored and organized. Surveys may need to be given to Faculty Coordinator or grad student in the education department
4. Check in with mentors and mentees, especially around mid-terms
  - a. Look at midterm grades (provided by Faculty Coordinator)
  - b. Reach out and meet with mentees who are struggling
5. Provide grade sheets that mentees update
6. Communicate with mentors and mentees and respond to any issues
7. Communicate with Faculty Coordinator
8. Complete IRB Training (online and only has to be done once)

### **Purpose of Program:**

Students within the EES department (Geology, Environmental Science) are required to take a lot of math courses (up to Calculus II OR Statistics for Biolife). These requirements can either prevent students from joining the department, or more commonly, cause students to drop out of the major. At Temple, students can repeat a course up to 3 (three) times. If a student does not receive at least a C by their third try, they are not allowed to retake the class, and therefore cannot complete their major. For example, if a junior geology major receives a D in Calculus I on their third attempt at the class, they would “fail” out of the geology major, even if they have all A’s in their geology courses. That student would have to find a new major!

Many college students, even STEM majors, struggle with math. The purpose of our math-mentoring program to provide our students with extra math support so they aren’t forced out of the major, and also to help them improve their math skills.

### **How is this different from tutoring:**

Many students are advised to go to Temple’s tutoring center located in Tuttleman. However, there are some issues with this:

1. You have to call to make an appointment. Many students don't take this initiative. They also have to continue making appointments if they want on-going, semester long help
2. Tutoring appointments are only 25 minutes long.
3. Students are not guaranteed the same tutor each time
4. Many tutors only show students how to solve a problem, instead of helping students with their note-taking skills and studying skills
5. Many students (especially freshmen) don't know where Tuttleman is

With our program, students will meet one-on-one with another student in the EES department for ONE (1) HOUR on a WEEKLY BASIS for the entire semester. Not only will the mentors help out the students with math problems, but they can also help them: study; organize notes; provide tips on dealing with the professor, go over tests and quizzes, help them get involved in the EES department and make friends within the department, provide advice on which classes to take, tell them about campus life, help them during times of stress, etc.

Basically, our program is more of a 'Peer coaching' but with math (and possibly chemistry and physics help in the future)

### **Getting Started:**

It is suggested to start 1 -2 weeks before the semester starts. Contact the faculty coordinator. The faculty coordinator should provide you with a spreadsheet with information on current and incoming EES students. For the current students, the spreadsheet should list what math classes (and grades) the students have had and what they are currently enrolled in, as well as how many times they took the class. For incoming students, the spreadsheet should provide information on any high school math classes (ex: AP Calc) and state what math class they are currently enrolled in. If there is no math information, it is possible the student is a transfer student. Start "flagging" possible mentors and mentees and put these into a separate spreadsheet (See next section).

### **How to Find Mentees and Mentors:**

When looking through the spreadsheets, look for current students who have done well in their math courses. These make great potential mentors, especially if they have completed the entire require math sequence. Send them an email explaining the program and why you think they would be a good mentor, and see if they are interested. Another good way of finding both mentees and mentors is using the department listserv (ask Faculty Coordinator for email). The listserv contains the emails of all current EES students, so it's a quick way of getting the word out about the mentoring program.

You can use the spreadsheets in a similar matter to find mentees. For current students that appear to be struggling (low grades and/or repeating the class), you can send them an email describing the program. However, it is not suggested to point out that you noticed that they are struggling with math. Keep the

email pretty generic, but specify why/how the program can help them. For incoming students, it is difficult to figure out which ones are struggling, since they haven't taken any math classes at Temple yet. Sending out an email describing the program to all new students has been done in the past. To make sure the students actually read the email, make the subject line specific. For example, "Free Math Mentoring for Geology Majors" is more specific than "Free Math Mentoring", since it specifies that the program is only for EES students, and is not a Temple-wide program. (If you use the above example, make sure it is only sent to the Geology majors on the incoming freshmen list. Send a separate email for environmental science students, but only change the subject to say "Environmental Science Majors" and keep the rest of the email the same.) See attached sample emails.

Also, don't forget to hang up flyers advertising the program. You should also speak at the first Geology Club meeting and talk about the program. Provide the club with your email so any interested mentors/mentees can contact you. Contact SGE (Sigma Gamma Epsilon) is useful, too.

Note: Many students interested in being a mentor are usually concerned about "how well they can tutor" or are uneasy about their ability to teach math. This is when you emphasize that this program is more of a peer-coaching program than a tutoring program. Always remind mentors that you and the Faculty Coordinator are there to support them. Also, if the mentee is really struggling, remind the mentor that they are also there to help the student find other sources of math help, such as the tutoring center or the professor's office hours.

Returning Mentee/Mentors: ALWAYS reach out to previous mentors and mentees. Many of them return to the program each semester.

#### **Example email to invite mentors:**

The EES department is looking for math mentors. These are students who act as a peer coach to other EES students in math courses. This coaching is not the same as tutoring (which is offered by the university tutoring centers). Mentors help students with study skills, get them organized, answer quick questions. You would meet with your student partner for 45 minutes to an hour a week at any location you chose.

Some benefits of being a mentor:

- Meet students new to EES
- Help and encourage another student
- Add to your resume, count as volunteer hours for Sigma Gamma Epsilon
- Get a sense of what it is like to be a TA before grad school

We don't know how many mentors we need or what level (algebra to calc) until the mentees sign up. However, we won't ask you to mentor a level you aren't comfortable with.

Could you volunteer for this activity? Please contact me if you are willing or if you need more information.

### **Pairing Students Up:**

If you have time, I suggest meeting with each mentee individually at the beginning of the semester so you can explain the program to them and so they are familiar with you. You can also have them fill out the pre-semester survey, anxiety survey, and IRB form at this meeting. Since returning mentees know the program and what is expected of them, it is not necessary to meet with them. For mentors, a group meeting at the beginning of the semester is useful (provide snacks). You can explain the program, have returning mentors talk about their experience, and then they can ask you any questions.

Ask all the mentors and mentees to send you their schedule. Based on the schedules, you may only have one or two options for each mentee. Always make sure the mentor has taken (and passed) the class that the mentee is currently enrolled in. An exception to this would be if the mentor and mentee are in the same class and the mentor is comfortable mentoring for that student. If you have multiple mentor options for each mentee, I'd suggest pairing up mentor/mentee with the same major or similar interests.

### **They're paired up, now what?**

Provide each mentor with their mentee's email, and tell them to notify you when they have had their first meeting. It is up to the mentor and mentee to find a meeting time and place. Also email the mentee with their mentor's name and let them know that they will be hearing from them shortly.

### **Midterm Check-in's:**

Around midterms, the faculty Coordinator will post the mentees' midterm grades (S, UG, UP, or UA). Meet with each mentor individually to check-in, and ask them how things are going. Do the same with the mentees. Also distribute the midterm surveys (both mentor and mentee).

### **Finals Week:**

Mentors are NOT required to meet with their mentee during finals week. However, if they want to meet with their mentee, they are more than welcome to! Send out an email to the mentors with this information. You can also send out an email to the mentees and see if any are interested in a group study session during study days. If so, you can reserve Room 303 for that purpose and provide snacks and beverages. Email Shelah about reserving the room, and email the faculty coordinator about purchasing snacks.

Send out the post-semester surveys during this time. Students tend to stop checking their email after the semester has officially ended, so you are more likely to get a response during finals week than after.

### **Troubleshooting:**

*Mentee has stopped responding/coming to meetings*

Contact the mentee and ask if they are still interested in the mentoring program. There have been times where the mentee has dropped their math class and then never told their mentor. If they still don't respond, email them and state: "If I do not get a response by (date), I will assume that you are no longer interested in the program."

*You have more mentees than mentors:*

Other than recruiting new mentors, there are some options. You can (1) ask a mentor if they are willing to take on two (2) mentees at separate meeting times, or you can (2) Ask the mentor AND mentees if they don't mind having two mentees present at one meeting. If you do this, it is best to make sure both mentees are in the same math class. The reason why you need the mentees' permission is because we advertise this program as ONE-ON-ONE mentoring. You need to make sure the mentee is okay with their meetings being two-on-one.

*You have more mentors than mentees:*

Pair up any mentors that are new to the program so they can get the experience. Assure unpaired mentors that they will receive a mentee if any new ones join the program.

*You need more mentors, but no one has responded to your emails:*

Talk to students in person. Lunch tables and Geoclub meetings are good places to find mentors.

*In the middle of the semester, a student contacts you asking to be a mentee:*

If you have extra mentors, pair one of them up with the new mentee. If you do not have any extra mentors, kindly respond to the student and explain that you have no available mentors. Remind them that the program will be starting back up next semester, when it is more likely that there will be available mentors. You can also email them the list of student resources.

*A non-EES student (ex: chemistry, math, or biology major) asks to be a mentee:*

Kindly let them know that this program is only available for EES students. You can send them the list of students resources, too.

*You are worried about the well-being of a mentee or mentor:*

Contact Faculty Coordinator