Make A Difference: Teach for WTP this summer!

The MIT Women’s Technology Program (WTP) is a four week summer experience to introduce top math and science female high school students to engineering and computer science and spark their interest in pursuing these fields. WTP is a women-focused program aimed at empowering students from groups that are historically underrepresented in engineering. Many WTP alums are now MIT students; others are studying engineering and computer science at other colleges, so this program really makes a difference! View this YouTube video to learn more about WTP.

We are seeking female Instructors for our CS, EE, and Math classes for summer 2020 who are passionate about acting as mentors and role models for high school students and who are eager to teach a hands-on, project-based curriculum in a collaborative community.

Instructor Job Description: Women’s Technology Program in EECS - 2020

The WTP-EECS curriculum introduces students to computer science, electrical engineering, and mathematics topics related to EECS. The EECS students are divided into 2 groups of approximately 20 students; Instructors will teach the same class lesson twice daily to the two different class groups. Below is information about the WTP-EECS curriculum covered in past summers; we have curriculum files from several years you may use.

**Computer Science:** an intensive introduction to thinking computationally and programming in Python, with challenging conceptual exercises and daily programming assignments. Topics include the basics of computer science (variables, lists, loops, functions, and classes) and introduce graphics. Although the students all arrive at WTP with no prior programming experience, by the end of the third week they complete a hangman game as well as a fully functioning game of Tetris.

**Electrical Engineering:** introduces several core topics in electrical engineering, including analog electronics, system theory and signal processing, device physics and semiconductors, and digital electronics. Short lectures, readings, and homework prepare students for daily hands-on labs exploring real-world applications of electrical engineering, with emphasis on experimentation, design, and troubleshooting. Students complete several complex projects, including Arduino microcontroller projects that also apply programming skills learned in the CS course.

**Mathematics for EECS:** covers a range of math concepts, ideas and tools applicable to electrical engineering and computer science. Topics may include: binary numbers, Boolean algebra, probability, algorithms, recurrences, number theory, information theory, and game theory. Homework focuses on writing proofs, thinking critically, and learning problem-solving at a college math level.

**Requirements:** Instructors must either be: 1) female MS/PhD students in the MIT EECS department during summer 2020 (preferred) or 2) female MIT Post-Docs, or 3) female MEng students who will graduate in June 2020. The best Instructors will have a dedication to mentoring and teaching and enthusiasm for EECS and STEM education that they want to communicate to high school students. Instructors also act as career role models for the female WTP students.

It is important that Instructors have NO other responsibilities - including research June-July 2020. Check with your advisor before applying to confirm that you are free to work full-time for WTP.

**Compensation:** Instructors receive a 3-month summer TA appointment and TA credit towards your PhD. Post-Docs and graduated MEng receive equivalent TA salary.

This job requires true commitment and dedication…

…but it is also lots of fun and very rewarding!

See the next page for 2020 Instructor Schedule and How to Apply
2020 Schedule for WTP-EECS Instructors:

Jan-May -- Curriculum Preparation and Tutor (TA) Interviewing:

Instructors work a few hours each week, reviewing previous curriculum years, planning and designing for summer 2020, and meeting monthly with the WTP Director and each other. Instructors also help interview the undergraduate students who will be WTP-EECS Tutors (TAs) in their classrooms.

June 1-26 -- Final Course Preparation and Staff Training:

Focus 100% on WTP. Instructors will work independently the first weeks before the Tutors (TAs) arrive. The curriculum should be at least 70% completed and lectures, labs, and homework for the first week of classes should be mostly finished and ready for testing; create a work plan for your Tutors (TAs) when they arrive on June 15 for staff training.

Formal Staff Training runs Mon-Fri June 15-26 (roughly 9:30am- 4:30pm each day). Instructors work with classroom Tutors to set up, test, and finalize the curriculum, labs, and equipment. Also attend training sessions in working with minors, effective teaching, collaboration, and teamwork. Give practice lectures in front of the entire WTP-EECS staff and incorporate staff feedback. Prepare class activities and presentations for WTP-EECS Student Orientation arrival weekend on June 27-28.

June 27 - July 25 -- WTP 2020 in session (high school students are on campus):

Saturday, June 27 Welcome Dinner, 7pm: Instructors attend to meet the students who just arrived that day.

Sunday, June 28 Orientation Day 10am – 4pm: Instructors lead activities to introduce students to WTP-EECS expectations, safety training, and your class curriculum. Dinner that night is optional for Instructors.

June 29 – July 17: Teach your course - this is intense and fast-paced. Students are in two class Groups of approximately 20 students each. Monday – Friday you will teach the same class twice each day. You must also attend a daily meeting of all WTP-EECS staff (4-5pm), and prepare your Tutors to lead evening homework help office hours (you may need to attend these evening sessions yourself). Weekends you should expect to spend time revising curriculum, correcting homework, consulting with the Tutors (though classes are not scheduled, we do have office hours for homework help).

July 18-24: Instructors are finished teaching their classes (students are doing a motor building project with Tutors and MIT faculty this week). Instructors should spend this week collaborating with each other to start writing college letters of recommendation for the high school students. Pack up lab and curriculum equipment. Attend the WTP final dinner and talent show on July 25. Students depart for home on July 25.

July 26 - August 15 -- Wrap-Up:

Finish writing college letters of recommendation for the WTP students and wrap up your curriculum files.

TO APPLY:

1) Complete the Instructor Application Form at:  
   https://tinyurl.com/InstructorEECS2020

   AND

2) Email your CV/Resume to wtp-eeecs@mit.edu to request an interview.

MIT requires all WTP Staff to undergo a background check before hiring, and sign the MIT Code of Conduct for Programs Involving Minors