WTP EECS 2022 Instructor Role

Make a Difference: Teach for WTP-EECS this summer!

We will hire 2 WTP-EECS 2022 Instructors (one to teach EE, one to teach CS).

The [MIT Women's Technology Program (WTP)](https://wtp.mit.edu) is a four-week summer academic experience to introduce high school students to engineering and computer science in the summer after 11th grade. The goal of the WTP-EECS curriculum track is to give these students an initial exposure to EECS in a supportive, collaborative learning environment, and get them excited about learning more after WTP ends.

- Instructors must be current MIT EECS MS/PhD students, or MEng students graduating in May 2022.
- Women and other genders historically underrepresented in engineering are preferred.

WTP 2022 will be a virtual online program (as it was in summer 2021). [see this FAQ](https://wtp.mit.edu/faq)

The best Instructors have a dedication to mentoring and teaching and enthusiasm for EECS and STEM education that they want to communicate to high school students.

**WTP-EECS Instructor Job: Details and Curriculum**

WTP is an opportunity to design and teach your own course! However, Instructors do not have to start “from scratch;” you can build on prior years of curriculum files (both virtual 2021 and prior in-person years).

You will teach a class of 20 high school students who have demonstrated their ability to excel at math and science, but who have no prior background (or very little) in engineering or computer science. We particularly select students for WTP who attend high schools with limited STEM resources, or who may be the first in their family to attend college, or who are from groups historically underrepresented in engineering (such as African American, Hispanic, Native American).

Collaboration is an essential part of engineering, so we encourage the students to ask questions, brainstorm, persist, and work together to build projects and write code. They explore multiple problem-solving approaches, experience the iterative nature of the design process, and develop critical thinking and debugging skills.

Teaching for WTP can give you real experience you can talk about when interviewing for academic positions after graduation. Below is brief information about the WTP-EECS curriculum we covered in previous years.

**Computer Science:** The computer science class is a fast-paced introduction to thinking computationally and programming in Python. The course assumes no prior CS experience, but moves very quickly to cover fundamental topics such as data types, lists, loops, functions, and objects. Students complete challenging conceptual exercises and daily programming assignments, with an extensive final project. WTP will ship loaner laptops to students pre-loaded with the software they will need (such as Spyder).

**Electrical Engineering:** The EE curriculum introduces fundamental electronics through short lectures, readings, homework, and hands-on projects, with emphasis on experimentation, design, and troubleshooting. WTP will send students materials, components, and equipment that will allow them to build and test projects at home. Students complete several complex projects, including an Arduino microcontroller project that also applies programming skills learned in the CS course.

This job requires true commitment and dedication… …but it is also lots of fun and very rewarding!

See the next page for 2022 Instructor Schedule, Compensation, and How to Apply

Revised 2/8/22
2022 Schedule for WTP-EECS Instructors:
It is important that Instructors have NO other summer responsibilities - including research June-July. Check with your advisor before applying to confirm that you are free to work full-time for WTP.

Feb-May -- Curriculum Preparation and Tutor Interviewing:
Instructors work a few hours each week, reviewing previous curriculum years, planning and designing for summer 2022, and communicating with the WTP Director and each other. Instructors help interview and select the MIT undergraduate students who will be their classroom Tutors: 4 for EE class, 4 for CS class. For EE the Instructor will need to compile a list of parts and materials for labs; given supply chain issues last year ordering materials as early as possible in May is recommended.

June 1-24 – Finalizing Course Curriculum and Staff Training:
Instructors work independently to prepare the curriculum June 1-12, and should have a plan for work the Tutors will do when they come on board June 13. Instructors should have most of the syllabus outlined by June 13. We need to assemble boxes of EE materials and parts and ship to WTP students before June 21.

Formal Staff Training runs Mon-Fri June 13-24 (roughly 9:30am- 4:30pm each day). Instructors work with their Tutors to test and finalize the curriculum, labs, and equipment and upload course materials to Canvas. All staff also attend training sessions in working with minors, effective teaching, collaboration, and teamwork. Instructors give some practice lectures to the WTP-EECS staff and incorporate staff feedback. You will prepare class activities and presentations for the WTP-EECS Student Orientation weekend sessions on June 25-26.

June 25 - July 24 -- WTP 2022 remote online in session

Sat June 25 and Sun June 26 Orientation Sessions: There will be online Zoom sessions with the WTP students both days from 10am – 4pm. Instructors lead activities to introduce students to WTP-EECS expectations, safety training, your class curriculum, and tools we will use such as Canvas, Discord, Slack.

Mon June 27 – Fri July 15: Teach your course - this is an intense and fast-paced three weeks! Instructors and Tutors teach one EE or CS class daily Mon-Fri (morning or afternoon). Staff attend a Mon-Fri 5pm ET staff meeting. Evening office hours are 7-10pm ET to help students with homework and projects. Weekends you may need to revise curriculum, correct homework, consult with the Tutors (we may have a few additional homework help hours).

July 18-22: Instructors are done with teaching - begin curriculum wrap-up WTP-EECS students this week learn about the Physics of Energy and Power Electronics with Prof. Steve Leeb. Instructors begin wrap-up activities: make notes about students for college letters of recommendations, pack up lab materials and equipment, and make curriculum notes for next year’s Instructors. There will be some final WTP closing activities Thu July 21 and Fri July 22 that Instructors should attend.

July 23-29: After WTP Student Session is over: Finish Final Wrap-Up Activities

Compensation:
- Instructors receive a 3-month summer TA appointment: this will be approximately the 2021 rate: $3,836/mo for 3 months, $11,508 summer total – Summer 2022 rates are released by MIT in May.
- PhDs earn credit for the EECS department TA degree requirement.
- For spring semester preparation, it may be possible to compensate hourly via MIT student payroll.

TO APPLY:
1) Complete the 2022 Instructor Application Form: https://tinyurl.com/ms34vxy7

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 follow the MIT Guidelines for Online Programs for Minors.