



Women's Technology Program

<https://web.mit.edu/wtp/>



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Inspiring the Next Generation

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Mission

To spark interest in the future study of engineering among high school rising seniors who are unsure about their future plans.



Generate Interest in Engineering

"I realize that engineering has so much more depth and so many more applications than I had thought. I'm looking forward to finding a field of engineering that I am really interested in and pursuing that in the future."



Increase Confidence in Abilities

"I gained confidence in my academic abilities and now feel like I might thrive in a STEM-focused environment, whereas before I wasn't as sure about my path after high school."



WTP History



STUDENTS 2002 - 2024: 1,108

EECS: 750

ME: 358

2002

Founded in the Department of Electrical Engineering and Computer Science (EECS) as part of a Master's Thesis by Doug Ricket

2006

Mechanical Engineering (ME) curriculum track added with 20 students. EECS track accepted 40 students from 2003 - 2019.

2020

No WTP programs in 2020. In 2021 and 2022, programs were virtual, with boxes of supplies sent to students' addresses.

2023

WTP-ME returned to an in person program at MIT. *WTP-EECS went on hiatus after the 2022 program*

Key Program Features



01

Experiential, Active Learning

Students are **actively responsible** for their own learning in a **collaborative** setting, developing **critical thinking skills** while working on college-level, open-ended problems.

02

Gain Confidence and Independence

Students work and build friendships with **people from different backgrounds**, developing intuition and **embracing the unknown** and failures as a means toward success

03

Positive Impact on WTP Staff

MIT undergraduate and graduate students teach the WTP students, **facilitating group problem solving** and hands-on exploration, giving back by **passing on their passion for engineering**.

WTP Approach

Give students an in-depth, 4-week exposure to Engineering

- Give a “deep dive” into Mechanical Engineering, rather than a survey of multiple engineering fields
- Students learn what it might be like to be a practicing engineer.

Admit students who excel at Math and Science but are not already on the path to engineering

- Most students have not been exposed to engineering in high school
- Students attend the 4-week program the summer before senior year, so they may be influenced to apply to engineering programs in college

Hands on Classes with Problem Solving and Engineering Labs

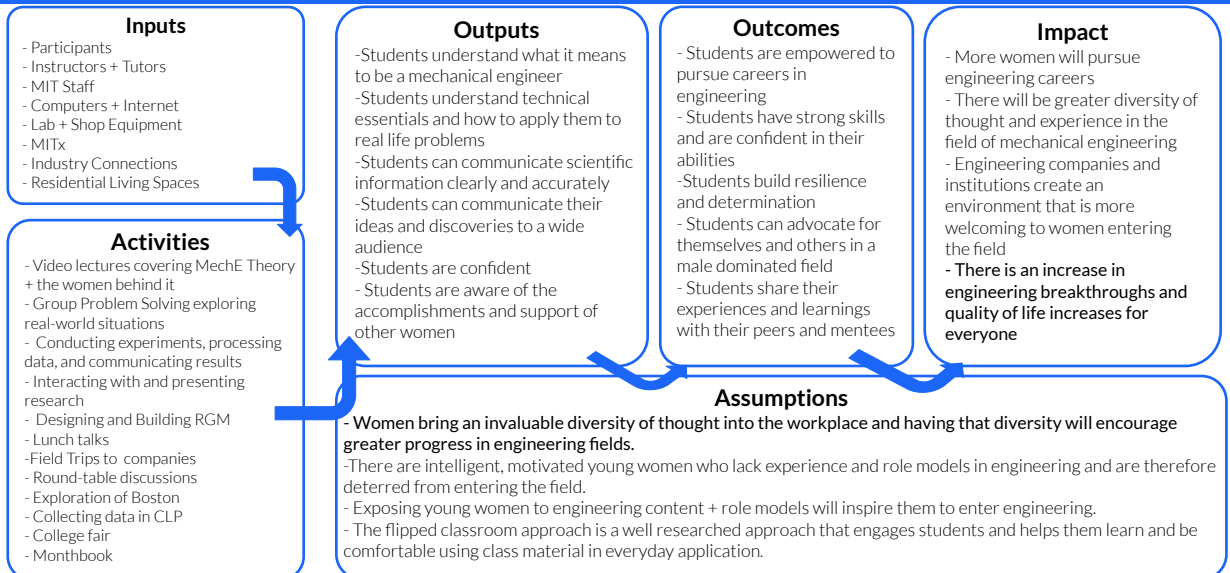
- Classes cover basics concepts of physics and mechanical engineering, providing the background needed for the capstone projects

Two Capstone Projects provide opportunity to “be an engineer”

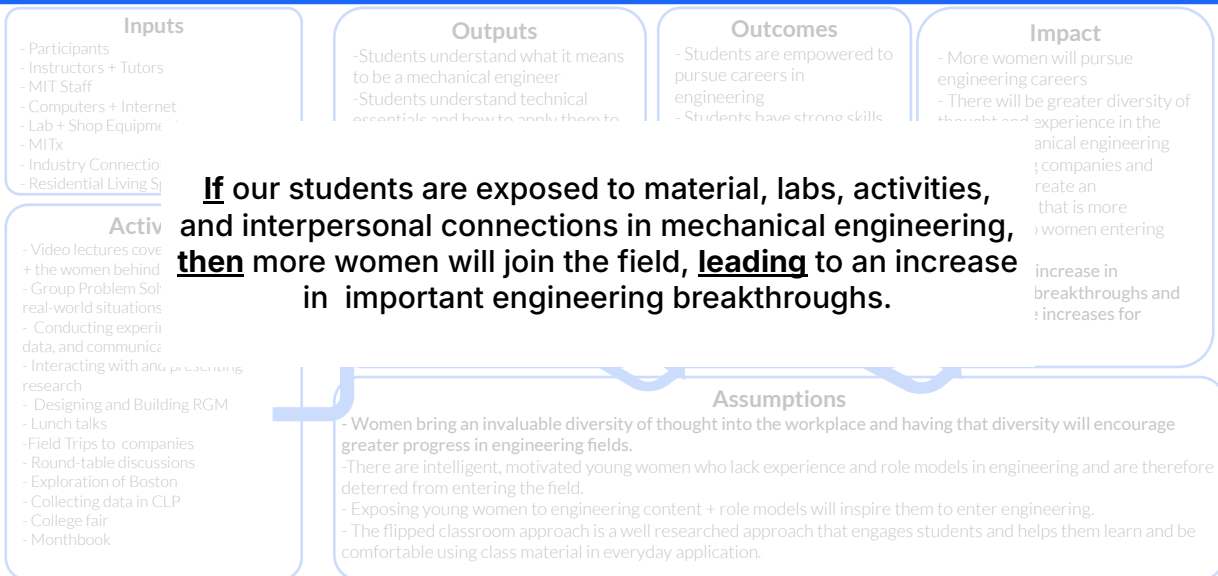
- Third week poster project allows students to do an in-depth analytical, computational, or design study of a problem of interest to them
- Final week Rube Goldberg challenge - hands-on design and fabrication

MIT Students/Recent Graduates are Instructors and Residential Tutors and act as role models for students

Faculty and Industry Guest Speakers and Tours

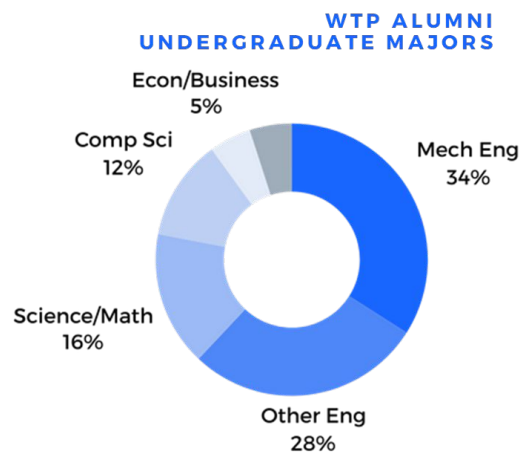


Program Logic Model



WTP Works!

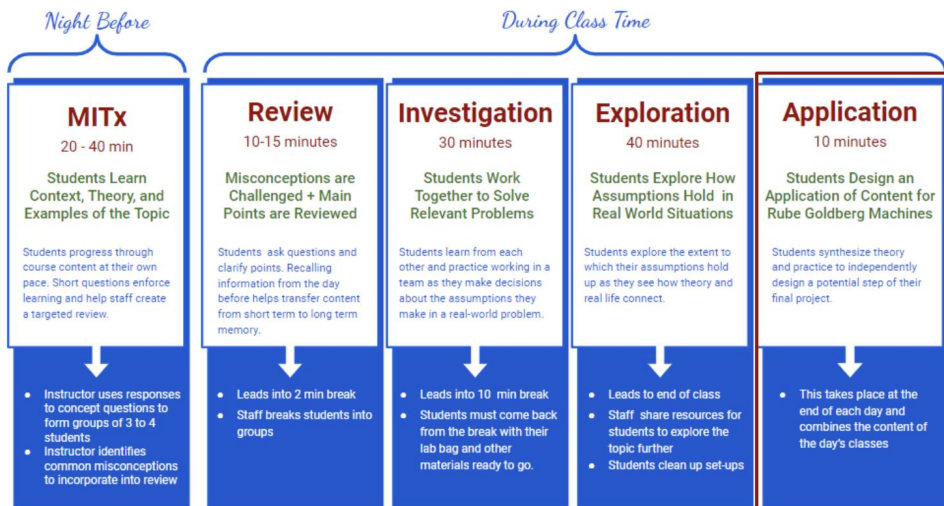
WTP's high demand is evident each year, with hundreds of applicants vying for just 20 coveted spots. Since its establishment in 2006, the ME program has **positively influenced the lives of nearly 360 students**. Among those who have declared their college majors, **more than 74% have opted for engineering or computer science**. So far, 76 students have matriculated at MIT, with an impressive 83% selecting majors within the School of Engineering.



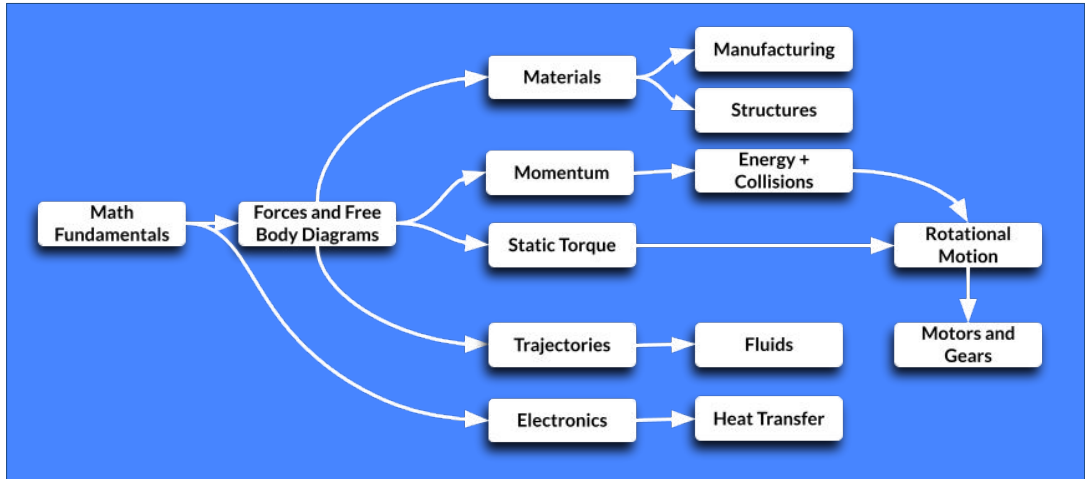
Changing class structure encourages collaboration and exploration



WTP Class Structure

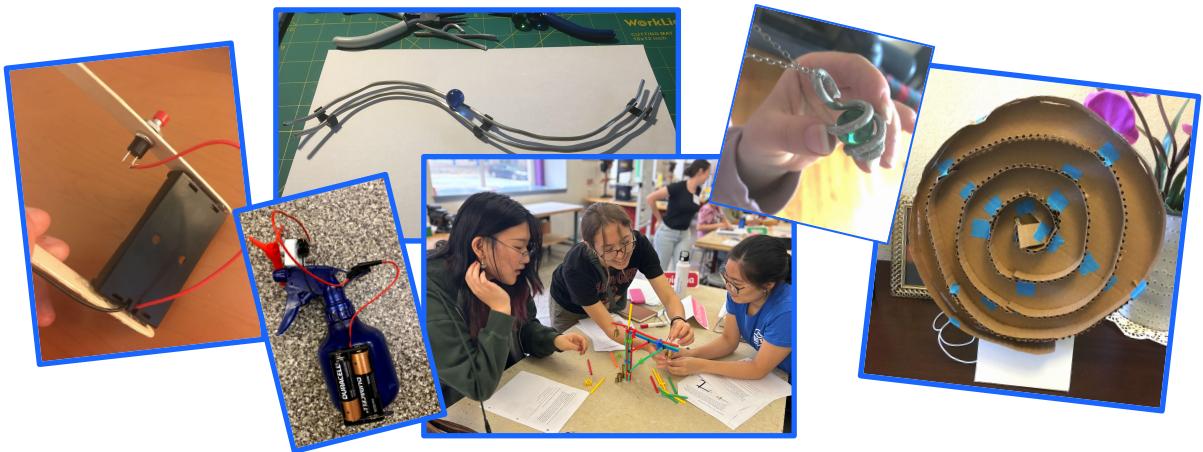


Technical Threads with Shared Themes



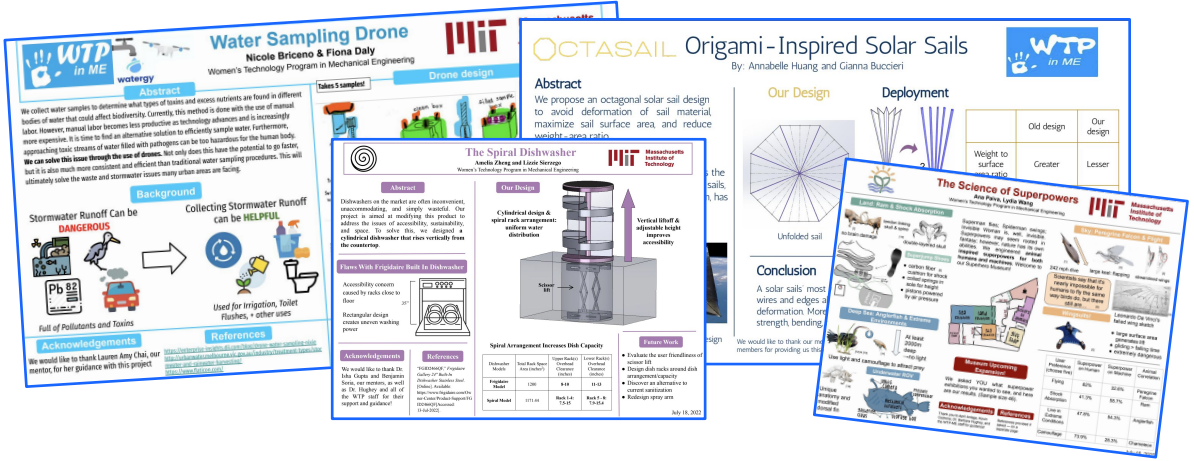
Building Workshops

Building confidence through hands-on creation



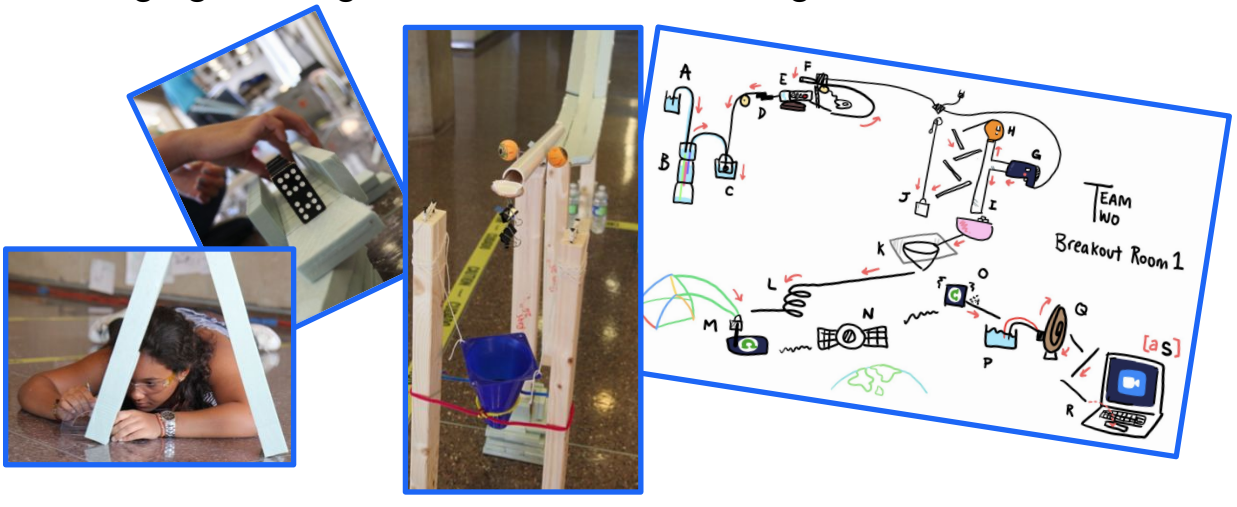
Research Projects

WTP students work in pairs with MIT mentors on projects in a wide range of areas tailored to their interests



Rube Goldberg

Bringing it all together to create something new



Program Impact

"I love the learning environment that is encouraged at WTP. I've learned so much not just from class lectures, but also from productive collaboration in a dynamic environment with some of my (now) closest friends."



Guest Speakers

"The guest speaker lunches made me think about the real life applications and jobs available to those studying engineering"



Confidence

"I realized that with cooperative support from staff, I can learn anything, even without former background"



Impact on Staff

"I learned through WTP that I enjoy teaching and making a difference in the girls' lives. I can't see myself teaching professionally, but I would love to be involved in something similar to WTP on the side in the future." *WTP Staff Member 2011*





What our students say

Testimonials
From Our Students!



WTP 2023, attending Columbia in EE

"WTP was the most impactful experience I had during my entire high school career. This experience made all the difference in my college application process."

WTP 2016, grad UIUC Bioengineering



"WTP helped to broaden my idea of what engineering looks like. It's creative, it's collaborative. I went from never considering engineering to committing to it in my college apps with no reservations."

Testimonials

WTP 2019, graduated Olin College in Computer Engineering

My high school lacked any engineering-based courses or extracurriculars like robotics teams. WTP provided me with a unique and eye-opening introduction to the field of engineering through its Mechanical Engineering track. It was during this experience that I discovered my passion for engineering and knew it was the path for me."

WTP 2018, graduated Harvard in Architecture/Design and Energy

"WTP opened the door for me and allowed me to see many incredible possibilities for my future that I had never considered. I felt empowered to pursue higher education at an elite institution and considered myself able like never before."

WTP 2018 graduated Harvey Mudd College

"WTP made engineering accessible to me and gave me the confidence to pursue engineering as my major. If it wasn't for my time at WTP, I would have counted myself out. It's been 6 years since I attended and I still think about my experience that summer as it truly set me up for the rest of my education and career."

WTP 2023 attending Carnegie Mellon

"Engineering seemed impossibly not-for-me, but I realized through WTP that assumptions can be beat through real experience and connection."

- Former Dean of the School of Engineering Thomas Magnanti for expanding the program to Mech. Eng.
- Former and current deans of the School of Engineering
- Former and current Department Chairs for the Departments of Electrical Engineering and Computer Science and Mechanical Engineering at MIT
- Center for Material Science and Engineering at MIT
- Brit d'Arbeloff (WTP-ME major donor)
- Sandra Huffman, M.S. and Miranda Kotidis Titus, M.S. for curriculum revisions
- WTP Instructors, Tutors, Residential Advisors
- WTP Alumni
- Cynthia Skier for inspiring WTP students and staff for 20 years