

MIT Beaver Works Summer Institute

Fall 2025 Outreach Program – 9 Courses

Girls Who Can Learn Applied Engineering,
AI & Future Technologies!

Girls Who Can Program Autonomous Cars!

Girls Who Can Learn Biotech!

Girls Who Can Program Cognitive Assistants!

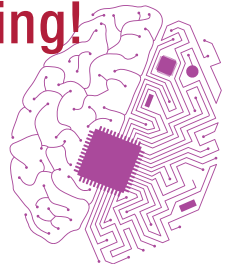
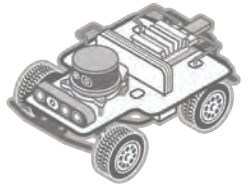
Girls Who Can Design, Build and Fly Model Aircraft!

Girls Who Can Learn Digital Logic & Computer Design!

****Girls Who Can Do Computational Problem solving!**

Girls Who Can Learn Python!

Girls Who Can Program Racing Drones!



No Prior Experience Required!

- WHO:** High School 10th and 11th Grade Female Students *
- WHEN:** Saturdays 11am–2pm (EST) – October 11, 18, 25, November 1, 8, 15, 22, December 6 2025
- WHERE:** Virtually, through Zoom!
- REGISTER:** https://mit-bwsi.formstack.com/forms/bwsi_fall_2025
- DEADLINE:** September 30, 2025

* While all BWSI programs are open to eligible students of any gender identity this fall program is designed to encourage and support female students in STEM.
** Girls Who Can Do Computational Problem Solving requires a strong background in math and some programming experience.



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Girls Who Can Learn Applied Engineering, AI & Future Technologies!

From Systems to Data Science



An early introduction to the engineering principles and technologies shaping the future, from embedded systems and web development to cloud computing, cybersecurity, AI, and interactive data visualization.

Topics:

- STEM Careers
- GitHub & Version Control
- Computer Systems & Networking
- Microcontrollers & Web Development
- Cloud Computing & Collaboration Tools
- Data Visualization Dashboards
- Cybersecurity & Responsible AI
- Machine Learning & AI Applications

**No Prior
Experience
Required!**

Who: Female High School Students (10th and 11th grade) interested learning about coding. Beginners encouraged!

When: Saturdays 11 am – 2 pm (EST)
October 11, 18, 25, November 1, 8, 15, 22, December 6 2025

Where: Virtually, through Zoom!

Registration Form: https://mit-bwsi.formstack.com/forms/bwsi_fall_2025

Deadline: September 30, 2025





Girls Who Can Learn About Biotech!

Deadline: September 30, 2025

Biotechnology Fundamentals and Applications

**No prior
experience
required!**

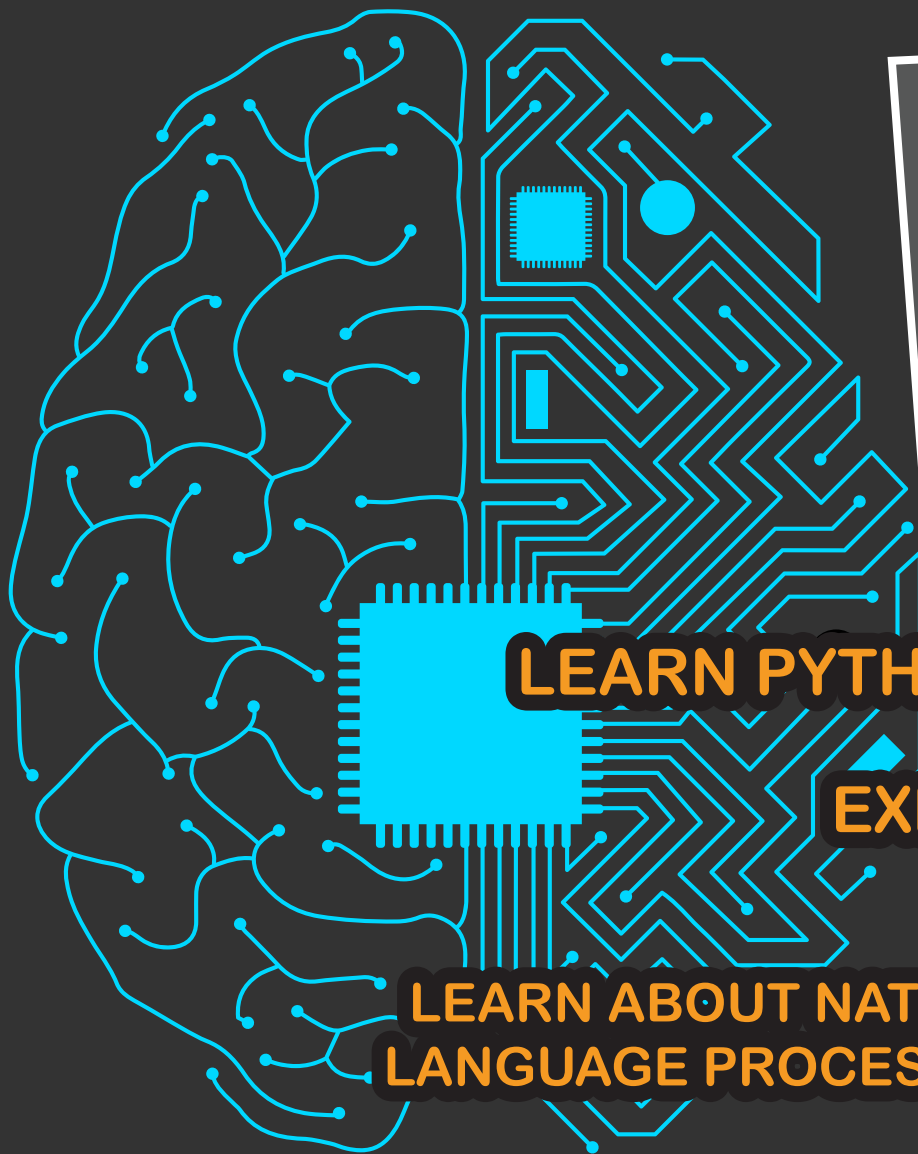
- **Who:** Female High School Students(10th and 11th grade) interested in learning about **biology** and **chemistry**! Beginners encouraged!
- **When:** Asynchronous course with instructor office hours & required meetings on Saturdays from 11 am–2 pm (EST)
- **Dates:** October 11, 18, 25, November 1, 8, 15, 22, December 6, 2025
- **Where:** Virtually through Zoom!
- **Registration Form:**

https://mit-bwsi.formstack.com/forms/bwsi_fall_2025





Girls Who Can Program Cognitive Assistants!



An introduction to
Artificial Intelligence
through building an
Autonomous
Cognitive Assistant!

Deadline:
September
30, 2025

LEARN PYTHON!

**EXPLORE MACHINE
LEARNING!**

**LEARN ABOUT NATURAL
LANGUAGE PROCESSING!**

No
Prior
Experience
Required!

Who: Female High School Students (10th and 11th grade) interested in learning about code and artificial intelligence! Beginners Encouraged!

When: Saturdays 11am – 2pm (EST) – October 11, 18, 25,
November 1, 8, 15, 22, December 6, 2025

Where: Virtually, through Zoom!

Registration Form: https://mit-bwsi.formstack.com/forms/bwsi_fall_2025

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Girls Who Can Design, Build and Fly Model Aircraft.

Design
Build
Fly
Crash
Rebuild



Introduction to RC Model Aircraft Design

Deadline: September 30, 2025

**No Prior
Experience
Required!**

Who: Female High School Students (10th and 11th grade) interested in Aerospace and Aeronautics.

When: Saturdays 11am – 2pm (EST) – October 11, 18, 25,
November 1, 8, 15, 22, December 6, 2025

Where: Virtually, through Zoom!

Registration Form: https://mit-bwsi.formstack.com/forms/bwsi_fall_2025

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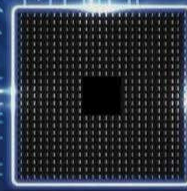


Girls Who Can Learn Digital Logic & Computer Design!

Fall 2025

**NO PRIOR
EXPERIENCE
REQUIRED!**

**Apply by
Sept. 30!**



Ever Wondered What Makes Computers "Think"?

From gaming graphics to storing your favorite photos, it all starts with simple logic. In this course, you'll explore:

- Boolean Logic: The foundation of decision-making in circuits.
- Memory: How computers store and also recall information.
- Machine Language: The building blocks of all programming.

WHO: Female High School Students (10th and 11th grade) interested in learning about circuits and programming.

WHEN: Saturdays, 11am— 2pm (EST), October 11, 18, 25, November 1, 8, 15, 22, December 6, 2025

WHERE: Virtually, through Zoom!

APPLICATION: https://mit-bwsi.formstack.com/forms/bwsi_fall_2025

DEADLINE: September 30, 2025





GIRLS WHO CAN DO COMPUTATIONAL PROBLEM SOLVING!

Learn to
think like a
computer scientist!



Math, programming, and data analysis!

Who: Current high school students with a strong background in math and some programming experience. All high schoolers encouraged!

When: Saturdays 11 am – 2 pm (EST)
October 11, 18, 25, November 1, 8, 15, 22, December 6 2025

Where: Virtually, through Zoom!

Registration Form: https://mit-bwsi.formstack.com/forms/bwsi_fall_2025

Deadline: September 30, 2025



GIRLS WHO CAN LEARN PYTHON!



Learn to
think like a
programmer!



Learn Python!



No prerequisites, no pressure!

**No Prior
Experience
Required!**

Who: Female High School Students (10th and 11th grade)
interested learning about coding. Beginners encouraged!

When: Saturdays 11 am – 2 pm (EST)
October 11, 18, 25, November 1, 8, 15, 22, December 6 2025

Where: Virtually, through Zoom!

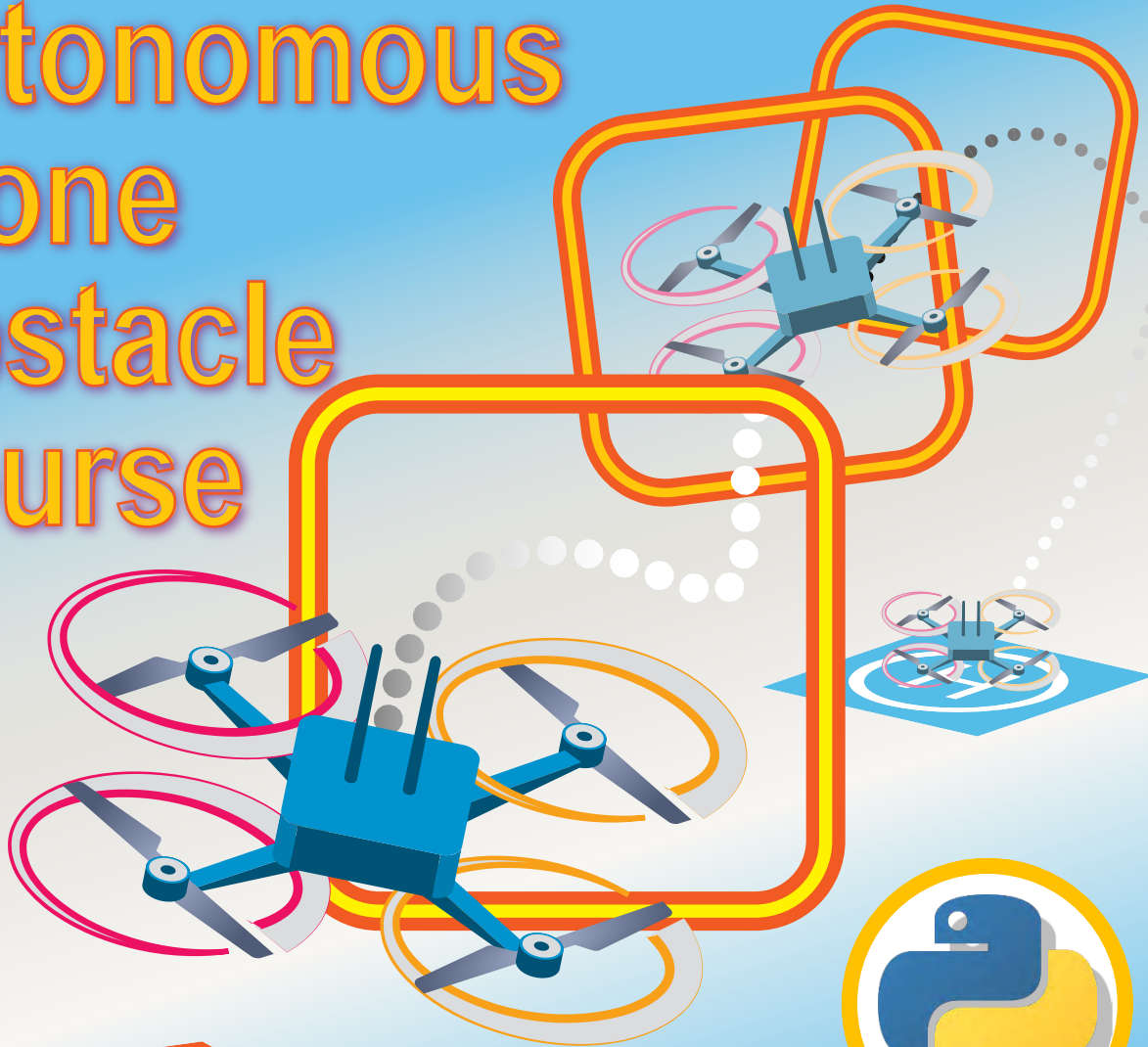
Registration Form: https://mit-bwsj.formstack.com/forms/bwsj_fall_2025

Deadline: September 30, 2025



Girls Who Can Program Racing Drones

Autonomous Drone Obstacle Course



Learn
to Code
Python

No Prior Experience Required!

Who: Female High School Students (10th and 11th grade) interested in Aerospace and Aeronautics.

When: Saturdays 11am – 2pm (EST) – October 11, 18, 25, November 1, 8, 15, 22, December 6 2025

Where: Virtually, through Zoom!

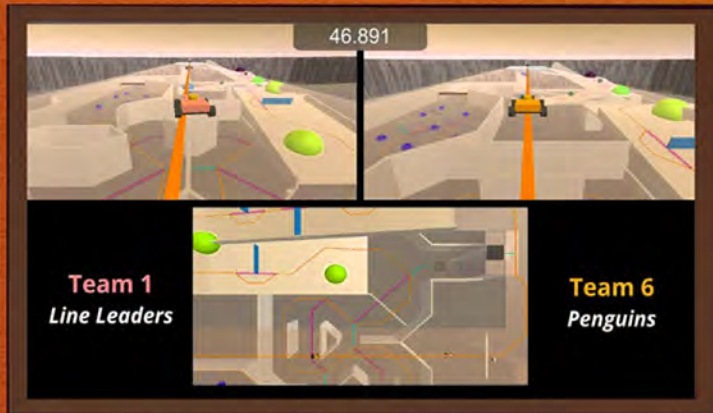
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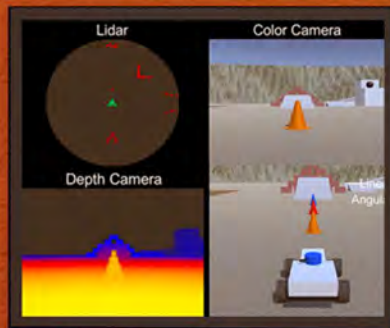
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GIRLS WHO CAN PROGRAM AUTONOMOUS CARS!



Race against others!



Analyze sensor data!



Navigate through mazes!



Autonomously drive in the Grand Prix!



While all BWSI programs are open to eligible students of any gender identity, this fall program is designed to encourage and support female students in STEM

Saturdays, 11am - 2pm EST

October 11th, 18th, 25th
November 1st, 8th, 15th, 22nd
December 6th, 2025

Location:

Zoom & Online
Edly Course Curriculum

Registration Form:

https://mit-bwsi.formstack.com/forms/bwsi_fall_2025

Deadline:

September 30th, 2025

