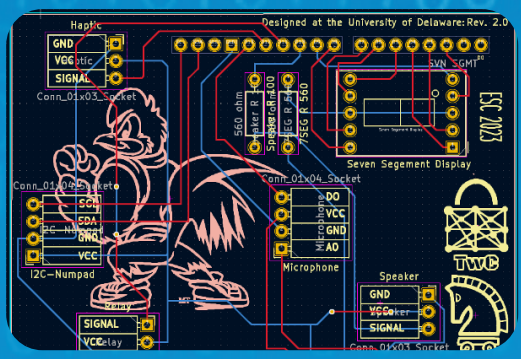
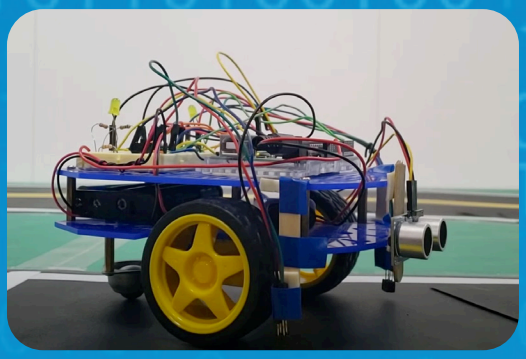
COMMUNITY SCIENCE PROGRAMS

Active Learning in Microelectronics and Cybersecurity for Our Community





Opportunities for Students, Parents, and Teachers

The University of Delaware's Center for Cybersecurity, Assurance, & Privacy (CCAP) is launching a new initiative funded by the NSF CyberCorps grant to engage students, young adults, and families in microelectronics and cybersecurity through hands-on learning. Starting this spring, we will host **Microelectronics Week** , a **Security Competition** for student teams, and five **Community Science Days** on Saturdays (at no cost), each exploring themes in engineering, technology, and microelectronics. These events will take place at the University of Delaware's Department of Electrical and Computer Engineering, featuring state-of-the-art facilities like the iSuite Maker Space and Cyber Range.

In addition to these informal experiences, we're offering a week-long program to **Delaware teachers** to explore microelectronics through hands-on projects, lectures, and collaboration. It equips educators with the knowledge and tools to create instructional materials, such as microelectronic kits, for classroom integration. Participants will work with expert faculty and advanced facilities to deepen their understanding of this crucial field. Funded by the CHIPS and Science Act, the program includes a **$2K stipend** for 20 teachers, supporting their role in enhancing STEM education.

Questions regarding our Spring and Summer Outreach programs?
Contact the University of Delaware's Center for Cybersecurity, Assurance and Privacy
Email: cybersecurity-info@udel.edu

Space is limited, apply Today!
ccap.udel.edu/community-outreach

UNIVERSITY OF DELAWARE

Center for Cybersecurity, Assurance & Privacy

CYBERSECURITY COMMUNITY SCIENCE PROGRAMS

STUDENTS

MICROELECTRONICS WEEK FOR STUDENTS

(July 28 - August 1, 2025)

Day 1: Introduction to Microelectronics

Day 2: Fundamental Electronic Components

Day 3: Voltage Regulation and MOSFETs

Day 4: Microcontrollers and Microprocessors

Day 5: Cyberphysical Systems

STUDENTS AND PARENTS/GUARDIANS

MICROELECTRONICS COMMUNITY SCIENCE DAYS

(Select Saturdays between March 22 - May 10, 2025)

We will offer 5 community science days on Saturdays and engage 12 high school students (plus one adult family member for each). Each day will include about 3 hours of educational activities and regular breaks.

March 22: Motor Day

April 5: Nano Drone Day

April 26: MEMS Day

May 3: Robot Vision Day

May 10: Self-Driving Car Day

TEACHERS

MICROELECTRONICS WEEK FOR HIGH SCHOOL TEACHERS

(July 14 - July 18, 2025)

Microelectronics Week for Teachers offers Delaware teachers a unique, week-long opportunity to explore microelectronics through hands-on projects, lectures, and collaboration. It equips educators with the knowledge and tools to create instructional materials, such as microelectronic kits, for classroom integration. Participants will work with expert faculty and advanced facilities to deepen their understanding of this crucial field. Funded by the CHIPS and Science Act, the program includes a **$2K stipend** for 20 teachers, supporting their role in enhancing STEM education.

Day 1: The theme of the day is an introduction to microelectronics.

Day 2: The second day's theme is microelectronic circuits to drive electric motors.

Day 3: Building on the training of the first two days, day three will focus on Microcontrollers.

Day 4: The focus will be on learning how MEMS systems work, emphasizing sensors.

Day 5: The last day will focus on the security of microelectronics, emphasizing side channels.

Space is limited, so apply today!

MICROELECTRONICS SECURITY COMPETITION

The hardware security competition focuses on side channels. The competition will have 2 tracks: (a) basic side-channel attacks to embedded devices using ChipWhisperer (5 teams of **college** students) and (b) basic side-channel attacks to cyberphysical systems (5 teams of **high school** students). Each team consists of up to four participants and will receive a chipwhisperer nano or an arduino-based PCB developed by UD. The competition will last 5 weeks during Summer 2025 (one new challenge will be released each week for each track). Dates to be determined.

FIND OUT MORE AND APPLY TODAY!

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The University of Delaware is a National Security Agency (NSA) accredited Center of Academic Excellence in Cyber Defense Education.