Students learned about Coding, Electronics, and Robots

This year’s participants were introduced to coding, electronics, and robotics.

All three phases talked about coding, including what is it and what it is used for. They also completed mini lessons in relation to the topic—mazes, binary codes, and decoders. Three mentors came and discussed how they use coding at their job. Mr. Macon (Code Dojo), worked on a coding activity with the students. His organization, rvacoderdojo.org, provides opportunities for students to learn more about coding. They also have a monthly meeting in which students participate in coding activities.

Next came the electronics. Phase I & II, worked on electronics projects to include squishy circuits, in which they molded a sculpture and placed a circuit in it. Phase III discussed soldering, magnetism, and electric motors.

Lastly, students were introduced to robotics. The Deep Run Blue Cheese robot came to show the students how all three topics are used in making the robot work. Phase I constructed two mini robots—one that was light activated and one that ran off of a motor. Phase II constructed a robotic hand that could pick up a ball and a mini robot which ran off of solar power. Phase III constructed two mini robots—one that runs off of solar power and on that is light activated.
Field trip to Mitigation Bank...

On July 25th, students participating in Phase III at Virginia Commonwealth University visited the James River Mitigation Bank, which is located in Manakin-Sabot, VA.

Deep Run High School, Blue Cheese Robotics Team was a hit....

Team 1086, Blue Cheese, is a product of FIRST, a nonprofit organization created to encourage students to explore careers in Science, Technology, Engineering and Math (S.T.E.M.).

This year they brought their National Championship winning robot to VSU and VCU for our students to get an up close look. They explained how to “drive” the robot and let our students take a chance..

Summer Engineering Institute Student Presentations are now available online.....

Students researched the different disciplines of engineering....

As a part of their summer exploratory, this year’s students did research on the different disciplines of engineering.

Students were given an assignment of researching the discipline they were interested in becoming and a discipline that they knew nothing about.

The end results were very creative and informative. Students gave presentations on different disciplines which included information on job duties, education, and pay.
Students researched the different disciplines of engineering....

This year's participants were assigned a career project. They had to create a media presentation about the type of engineer they were interested in becoming. They also had to research disciplines of engineering that they were not familiar with.

Students then presented this information to all participants of the SEI.

The following students won best Career Project Presentation:

**Virginia State University**
- Phase I
  - Desmond Hawkins
- Phase II
  - Evan Cunningham
- Phase III
  - Iyalonna West
  - Alejandro Rios

**Virginia Commonwealth University**
- Phase I
  - Joslyn Hill
  - Xavier Nora
- Phase II
  - Sneha Vakadani
  - Trevor Brown
- Phase III
  - Charles Cheatwood

Mentors come to speak with the students about their jobs...

Every year, engineers in various disciplines come to mentor our participants. They spoke about why they chose their discipline, what type of projects they work on, and they stayed and worked with the participants on their projects.

This year at Virginia State University, we had representatives from the following companies, VCU Massey Cancer Center, J. Sargeant Reynolds Community College, Capital One, W. M. Jordan, Environmental Green Solutions, Austin Brockenbrough & Associates, Cornerstone Architects, Federal Reserve Bank, DSD Partners, MasTec, Small Business Administration, U. S. Naval Engineering, Baskerville, Thomas Jefferson School of Law.

At Virginia Commonwealth University, we had representatives from, Virginia Department of Transportation, RvaCoderDojo, VCU School of Engineering, & McKesson Pharmaceutical.