

# Center for Enhancement of Engineering Diversity Annual Report 2019-2020

GROWING DIVERSITY AT VIRGINIA TECH



28 Years and Counting...

Since 1992, the Center for the Enhancement of Engineering Diversity (CEED) has provided encouragement and support to engineering students, focusing on the under-represented population.

Our office recognizes that Virginia Tech students are among the best and brightest, and assists them in achieving excellence



## CEED's Profile

The Center for the Enhancement of Engineering Diversity (CEED) opened its doors in the fall of 1992. Since that time, the office has grown and expanded its efforts to provide encouragement and support to engineering students, focusing on the under-represented population. Virginia Tech students are among the best and brightest - our office recognizes this, and through various activities, we assist them in achieving the excellence of which they are capable..



## Our Mission

The Center for the Enhancement of Engineering Diversity (CEED) at Virginia Tech is dedicated to enriching the engineering profession through increased diversity. Our programs are targeted to current engineering students at Virginia Tech, prospective students, and the Commonwealth of Virginia's pre-college community.



# Message from the Director



These are interesting times. FY2019 started well, then end? Not so much. But we are still here and still supporting students as best we can. But we are weathering a lot of changes this past year.

After 10 years, Susan Arnold Christian has left CEED and returned to her home in Kansas. What Susan has built over time is an amazing living learning community - selected Best of VT. The Galipatia Community remains strong and vibrant. We were extremely fortunate that DeAnna Katey applied for Susan's position. Arriving from Michigan, DeAnna has stepped right in and made the transition smooth and unnoticed. Susan is greatly missed by all.

Kristy Morrill also moved to a new position in the College of Science as an undergraduate recruiter. She was so excited about the new position - called it her dream job. She is such a Hokie, and loves to talk about Virginia Tech to anyone who will listen! We miss her as well, but we were again fortunate that Taylor Cupp decided to join CEED. Taylor came from the College of Architecture and Urban Studies and brings a wealth of social media knowledge that is really spreading the word about CEED.

Making a full circle, Tremayne Waller is now Director of Graduate Student Program for CEED. Moving over from the Dean's office in Torgersen Trey is helping CEED achieve its goal of proving programs for precollege, undergraduate, and graduate students. We also gained Renee Cloyd as assistant director. She is implementing a wonderful program called the New Horizons Scholars that is helping to increase the diversity of our graduate students.

And as always, several CEED graduate students have transition to other positions. We said goodbye to Ashley, Jarek, Sofia and Awad. They were great assets for CEED and as with everyone else they will be sorely missed.

2020 has brought much change. When covid-19 shut down the institution, none of us knew what it would be like, or for how long. We just kept moving forward trying to support the students as best we can. When George Floyd was murdered, it was crippling for many of us. And I do not use that word lightly.

But what has followed has been amazing! It is a movement, unlike any we have seen since the 1960's. Almost an awakening of the conscience of our country, of the world, that we will no longer allow our brothers and sisters to be treated less than equally. And it has been allowed - perhaps that is the more important thought. We cannot fix anything until we acknowledge that it is broken.

What we do now is more important than ever. CEED continues to make a difference and as you read about our past year, you will see how much we accomplished. We persevered through these difficult times and will continue to do so. Stay well.

# Outreach Programs

## Computers and Technology at Virginia Tech (C-Tech<sup>2</sup>)

### Background Information

C-Tech2, short for “Computers and Technology at Virginia Tech,” is a two-week residential program offered by the Center for the Enhancement of Engineering Diversity, a division of the College of Engineering at Virginia Tech. This summer camp is designed and intended for high school females who are rising juniors and seniors. The main purpose and goal of this program is to introduce students to the various fields of science, technology, and engineering that they can become involved in as collegiate undergrads whether at Virginia Tech or otherwise. Additionally, participants will have the opportunity to learn about life as an undergraduate – anything from living with a roommate for the first time to how to successfully navigate the dining hall – and begin to develop peer and professional networks.



The 2019 iteration of C-Tech2 ran from June 30 – July 13 and had 61 attending students supported by eight student staff members. Tawni Paradise served as co-coordinator and Cynthia Hampton assisted with focus groups, design project review and van driving.

Student staff members were:

Caroline Dyson	Bekah Fogarty
Clara Gambrel	Phoebe Gregg
Arin Ofir	Madeline Renault
Nola Storey	Leah Thomas

### Application Process

We used a variety of methods to promote C-Tech2. During the year a number of students and parents contact us regarding the program. We keep a contact list to email them once registration is open. We also maintain a contact list of school and community members, primarily within Virginia. These contacts are sent emails regarding CEED’s recruiting events and summer camp opportunities for the appropriate target audience. Finally, we advertise through a small number of online databases for summer camps.

When the registration period had closed there were 146 completed applications for 61 camper openings, making the acceptance rate 42%. Acceptance was decided by assigning points in the following categories: academics, 26 points; leadership and extracurricular activities, 12 points; essays, 16 points; for a total possible score of 54 points. Points were assigned by application reviewers which consisted of past C-Tech2 participants, CEED summer employees, CEED graduate students and CEED staff. Essays for this year were changed to reflect admissions changes using 4 short essays assessing non-cognitive variables as designed by William Sedlacek.

### Demographics of Applicants

The statistical breakdown of students comes solely from self-reported fields within their application. 5% were first generation students (neither parent has a 4-year college degree.)

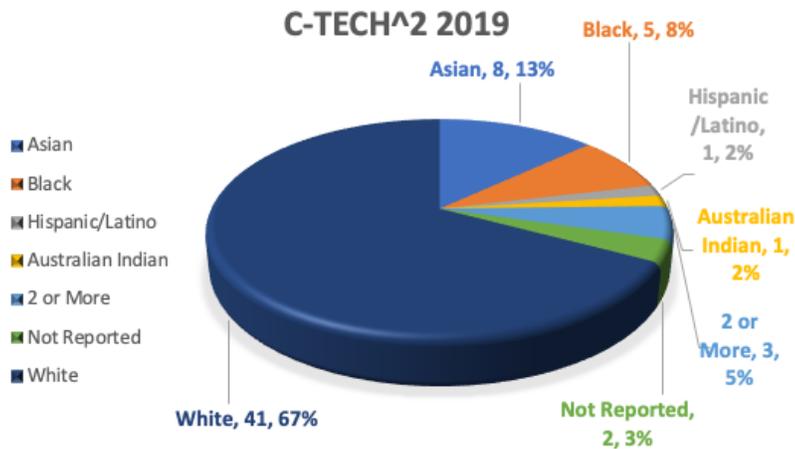
Rising Seniors: 70%    Out of State: 34%

# Outreach Programs

Rising Juniors: 30% In State: 66%

As part of the efforts to allow students to participate who might not otherwise be able to attend, scholarships were offered to those who requested it on the parent form. 52 students paid the full \$1500 fee, 1 student received a \$750 scholarship, 1 student received an \$850 scholarship, 2 students received a \$1,000 scholarship, 1 student received a \$1,300 scholarship, 2 students received \$1,400 scholarships and 1 student received a \$1,500 scholarship

## C-Tech2 2019 Participants by Ethnicity



## Activities and Presentations

### *Opening and Closing Ceremonies*

After the students had arrived and moved into East Ambler Johnston Hall they were invited to a lunch catered by Zoe's Kitchen. The Opening Ceremony was held in Torgersen 2150 for the participants and families. At this time Jesika McDaniel, a member of the Dean's Team, Kristy Morrill and Dr. Kim Lester, C-Tech2 Director, and camp staff spoke to families.

The closing session, held on July 8, was also held in Torgersen 2150. This time was filled by the participants and their end of camp presentations. The various offerings included photo slide shows and videos. Many tears and much laughter made it clear how much the campers enjoyed their experiences at VT.

### *Engineering Activities*

The following is a list of many of the activities that the C-Tech2 women were involved in over their two weeks on Virginia Tech's campus. The students were divided into four teams to experience these activities: the Cadets, Gobblers, Hokies, and Skippers.



- Avoiding Failures through Engineering Design – Dr. Domann & Prof Dillard
- Hands-On Heat Transfer – Dr. Diller
- Android Mobile Programming – Prof Barnette
- Designing the Next Generation Car – Dr. Heaslip
- ChemE: designing food, plastics, and reactions – Dr. Goldstein
- Lotus Leaf Effect – Dr. Cheng
- Preventing Bacterial Infections - Dr. Ducker

# Outreach Programs

---

- Intelligent Systems and Smart Materials - Dr. Philen
- Quarry Tour – Mr. Johnston
- Wireless Communications and Software Defined Radios – Dr. Headley
- Networks for Fun (and Profit and Social Good) – Dr. Prakash
- Plasma Science from Laboratory to Astrophysics – Dr. Srinivasan
- The immense power and beauty of little bubbles - Dr. Wang
- Metal Casting - Dr. Druschitz
- Sea Urchin Structures - Dr. Zhu & Dr. Li
- InVenTs Studio – Mr. Fuge
- Quantum Information Science and Technology - Dr. Economou
- Venture Out Challenge Course – Mr. Creech
- Feedback, Flight and Fantasy - Dr. Woolsey & Dr. Farhood
- Design Project – Mr. Frydryk & Mr. Kollar (General Electric)
- Etiquette Dinner – Ms. Claire Childress
- Financial Aid – Mr. Sartini & Ms. Ruotolo
- Admissions – Ms. Kayla St. Clair
- Etiquette Dinner Keynote – Dr. Mary Miller
- Watercraft Challenge – Mr. Bujinowski (Deloitte)
- Essay Writing – Dr. Kim Lester

In addition, engineering faculty were invited to attend lunch with the participants. During the lunch interaction the participants were encouraged to ask questions about opportunities for undergraduate research, internships, co-ops and jobs.

## *Evening/Social Activities*

After taxing days of engineering, the girls unwound with their RAs. Minute to Win It, Lawn Games, Breakzone with STEP, movie nights, tie die t-shirts, ice cream sundaes, talent show, s'mores, fireworks and the 4th of July parade were some of the evening activities. On the weekend, the girls were taken around the local New River Valley area on sightseeing adventures. On Saturday, participants visited Mabry Mill and explored the town of Floyd, Virginia for shopping and ice cream. Following optional religious services Sunday morning, everyone hiked to Cascade Falls.



## *Engineering Design Project*

Dan Frydryk from General Electric introduced the engineering design project on Monday morning, July 1, 2019. The design challenge was to “create a product that helps individuals living in a food desert acquire healthful “whole foods” without needing extensive plots of land for gardening” by:

1. Discovering the need/problem associated with food deserts
2. Brainstorming product ideas
3. Designing the product and prototyping a solution
4. Presenting the design solution to GE representatives at the showcase

Students engaged in a hands-on and team-based design process starting from identifying the customer need (residents in food deserts) and concluding their projects with presenting their prototypes and ideas for final

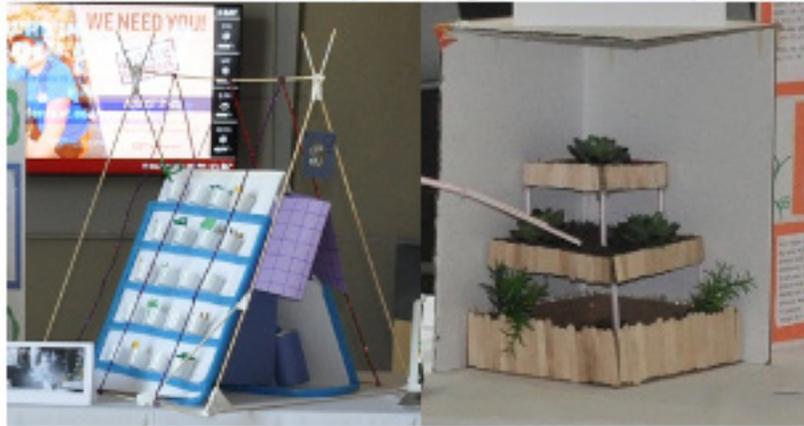
# Outreach Programs

---

feedback. Each team worked together to brainstorm a way to help residents of food deserts and built prototypes within the restraints of a \$20 budget to purchase prototyping materials. Throughout the summer camp teams had several scheduled hours of Design Project work time with access to the InVenTs Studio in Lee Hall where they could utilize the machines and tools available there, under the guidance of Alex Fuge. During the beginning of the second week (about halfway through the project), time was scheduled for teams to receive feedback from multiple GE representatives and engineering graduate students in the Design Project Mid-point review.



Two of the prototypes that were developed during this summer camp are pictured below:



Teams presenting their prototype at the showcase:



# Outreach Programs

## Imagination

### Background Information

Imagination was established in 1995 as a week long day-camp geared towards exposing middle school students to science, technology, engineering and mathematics (STEM) fields through stimulating hands-on activities. Coordinated by the Center for the Enhancement of Engineering Diversity at Virginia Tech, the program is open to students from all backgrounds. However, participation by females and ethnic minorities who are under-represented in the STEM fields is also heavily encouraged. The camp is approximately 2/3 residential and 1/3 day campers. Residential students come from Richmond, Martinsville, Franklin City and Prince William County. A variety of funding mechanisms are used to support the room and board costs for these students including sponsorship by the Bradley Department of Electrical and Computer Engineering (Richmond participants), and school district funding (Franklin City and Prince William County.) The Imagination Day Camp specifically targets school districts in Roanoke and local students from the Blacksburg and Christiansburg areas. Two Imagination Camp 2019 sessions were held, July 14-20 and July 21-27. This year, 66 rising 7th and 8th graders attended the first session and 62 students attended the second, for a total of 128 campers.



Thirteen Virginia Tech Engineering undergraduates served as program staff. Logan Perry, a CEED graduate student, served as co-coordinator.

Student staff members were:

Residence Hall Advisors:	Program Assistant:
NaZhere Singleton	Phoebe Gregg
Jimmy McAvoy	Alison Walters
Jesika McDaniel	Peter Brunone
Hallee Landmesser	Caroline Dyson
	Kailee David
	Arin Ofir
	Mark Shen
	Jacinda Djossou



### Marketing

Various methods were used to promote Imagination Camp 2019 to target audiences of students, teachers, administrators and counselors. During the year a number of parents and teachers contacted the CEED office regarding the program. They were added to a mailing list so that they received an email when the application process opened. In addition to announcements on the CEED website and other engineering web pages with summer camp listings, informational emails were sent to diversity contacts from school districts, community organizations and STEM education partners at Virginia Tech. The brochure used can be found here [https://drive.google.com/open?id=18T5q66KEFZ2qqjuoy9sx1\\_0zZzZ9NMOM](https://drive.google.com/open?id=18T5q66KEFZ2qqjuoy9sx1_0zZzZ9NMOM) . Students were also recruited through the camp website <https://eng.vt.edu/ceed/ceed-pre-college-programs/imagination.html>.

For the residential students, school administrators and counselors and Richmond diversity contacts were emailed directly. In Martinsville, Helen Howell was instrumental in facilitating the application process, including scheduling parent meetings at the two local middle schools. For Prince William County, SmartKids and Omega U

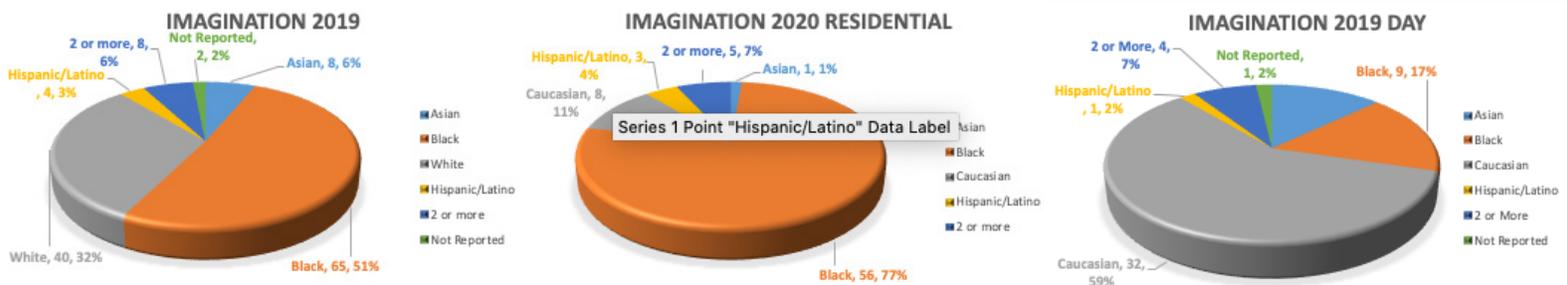
# Outreach Programs

recruited directly and provided the list of participants. Franklin City also recruited students directly and oversaw completion of application materials.

VT Fleet Services was contracted to provide bus service to and from Roanoke for the day camp for approximately 20 students. Apple Ridge Farm, the West End Center for Youth and Janile Weist at Breckenridge Middle School were our main resources for reaching out to inner city youth in Roanoke.

## Demographics of Participants

Below is a statistical analysis based on self-reported responses from 2019 attendees. (Female 42%, Male 58%; First Generation 26%)



As part of the efforts to allow students to participate who might not otherwise be able to attend, scholarships were offered to those who requested them. 12 day campers received full (\$150) scholarships for the camp. The residential camp was free to Richmond and Martinsville participants due to ECE and CEED sponsorship, respectively. SPARK (Prince William County) was billed for participants from SmartKids and Omega U was billed for their participants. Franklin City paid \$300/student with CEED covering the remaining cost for these students.

## Activities and Presentations

### Residential Students:

Residential students arrived on Sunday ~4:00pm. A parent chaperone traveled with the ECE- sponsored bus from Richmond. Martinsville students arrived by school bus with Helen Howell and additional parent chaperones. Some PWC students used the Richmond bus; the remainder drove personal vehicles. Franklin City provided a school bus for participants. Following dinner, an opening session where camp policies and expectations, including proper language and respect, were reviewed with students. The RAs led the students in various ice breaker and team building activities. They also organized fun evening activities over the course of the week including tie-dyed t-shirts, painting, movie night, spa night, ice cream sundaes, swimming at War Memorial and sports outside and at War Memorial Gym. Students from different locations were assigned as roommates to facilitate social interaction. Four student RAs as well as the co-coordinator lived with the students in East Ambler-Johnston Hall. Two of the RAs drove back to Richmond as bus chaperones on Saturday, July 20th, using a Fleet Services vehicle to drive back to Blacksburg. School buses or personal vehicles were used to transport the remaining students home.



### All Students:

Half of the day was spent building a low cost rover which was then modified to take part in a Sumo-bot

# Outreach Programs

competition. It was taught by K-12 teachers who had participated in a two day teacher training the first week of June led by Jonathan Kayne and Richard Gibbons, the student leaders of the AMP Lab. Teachers were recruited using the flyer found here <https://drive.google.com/open?id=14AHv6h32dHkzUzs74omSFKpTnYCPQ5WR>.

This was sent to superintendents, assistant superintendents of curriculum and instruction and STEM specialists in Montgomery County Public Schools and adjacent school districts. Twelve local teachers participated. The week culminated in a design project showcase on Friday afternoon which was followed by a Sumo-bot competition. Teachers were required to create lessons plans in order to create a library for other educators and received 12 professional development points for the training and 32 professional development points for each week taught in



addition to a \$750 stipend per week. All stipends were paid by the CEED office. Adjacent classrooms in the New Classroom Building were used to allow teachers to support each other and to make supply storage (including a USB printer) easier. Robert Viers, the building manager, provided excellent support.

Outside of the design project, Imagination relied heavily on faculty members and current Virginia Tech students giving of their time generously. Because of their sponsorship, the majority of the residential activities were related to electrical and computer engineering. The following is a list of the activities that the campers were involved in during the two weeks of camp. Students were divided into 4 groups of 16 – 17 for all activities.

- Advanced Materials for Tomorrow – Dr. Kathy Lu
- Water + Living and Constructed Things – Dr. Michael Garvin
- DNA Extraction and Modeling – Dr. Kristy Collins
- What's in your water? Drinking water in Virginia – Ms. Erin Ling
- Venture Out Portable Initiatives – Mr. Steve Creech
- Concrete Coasters – Dr. Alex Brand
- Career Explorations – Ms. Claire Childress & Ms. Heidi Gilbert
- Energy Harvesting Fabrics – Dr. Xiaoting Jia
- WARE Lab tours – Mr. Dewey Spangler and VT students
- JoBa Design Group – Ms. Amanda Reinartse
- Game Changineer – Dr. Michael Hsiao
- Drone Park Experience - Dr. Ryan Williams
- Earthquake Resistant Structure – Dr. Madeline Flint
- I Get Knocked Down But I Get Up Again – Dr. Sara Arena
- Medical Device Design and Rapid Prototyping – Dr. Christopher Arena
- ChemE: Designing Food, Plastics and Reactions – Dr. Aaron Goldstein



*"I liked everything because you made us feel at home. My favorite part was when we did the obstacle course. It was fun because it was scary and it helped us get over our fears. I learned more about engineering. I hope someday to become an engineer. Thank you for opening up you college to us. It might not seem so important to you guys, but it is to us. It is a real life great opportunity so thank you."*

# Outreach Programs

---

## Building Leaders for Advancing Science and Technology (BLAST)

### Background Information

The Summer BLAST program is a three-day residential summer experience taking place on the campuses of Virginia Tech, the University of Virginia and Old Dominion University in the summer of 2019. BLAST is geared toward students who may have an interest in STEM or an underlying aptitude for STEM academics, but have not yet discovered the excitement of STEM. Through innovative hands-on experiences taught by faculty members and staff, students are able to explore the fun and exciting aspects of STEM while residing on a college campus.

Two sessions, June 16 – June 19 and July 7 – July 10 were held this year. 80 rising 9th and 10th grade students from Virginia were hosted on the Virginia Tech campus each session. BLAST is a partnership

between the Virginia Space Grant Consortium (VSGC) and Virginia Tech. Apart from transportation costs, this program is free to participants.



A total of 14 Virginia Tech students served as staff members assisting with the numerous STEM activities and residence hall programming. VSGC also provided eight teacher chaperones for each respective week to help supervise participants as well. Collin James served as the co-coordinator for session one, and Logan Perry, a CEED graduate student, served as the co-coordinator for session 2. Alex Hyler, a former PhD student currently working in Blacksburg, oversaw the Biotech-in-a-box protein electrophoresis activity.

Student staff members were:

Program Assistants:

Phoebe Gregg

NaZhere Singleton

Alison Walters

Peter Brunone

Caroline Dyson

James McCray

Residence Hall Advisors:

Kailee David

Joe Eversole

Collin James

Jimmy McAvoy

Clara Gambrel

Jesika McDaniel

Instructors:

Carol Ma

Haritha Gnanasegar

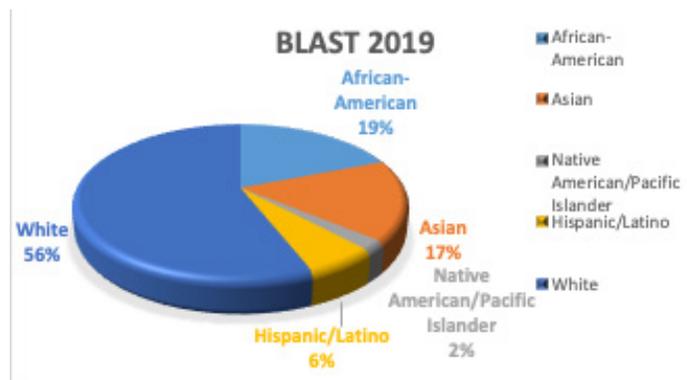
### Marketing

VSGC was solely responsible for the selection of participants and all marketing efforts related to the program. Students who had previously participated in the Imagination camp and fit the age and residential requirements, were emailed information about applying to the camp.

### Demographics of Participants

# Outreach Programs

Below is a statistical analysis based on self-reported responses from the applicants. Participants were divided equally between male and female. 23 (14%) were first generation.



## Activities and Presentations

BLAST relied heavily on faculty members and graduate students volunteering their time. The daily schedule consisted of 3-hour blocks of STEM activities in the morning and afternoon, with individual sessions varying from 1 – 3 hours long. Immediately after lunch, participants toured two labs per group. Opening and closing programs were held on the first and last days of camp, with a student panel on the second evening. Fun activities, including movie night, sports games, ice cream sundaes and capture the flag were led by the undergraduate student resident advisors after the evening programming each night. All participants took part in the same activities. A list of activities and presenters follows.

- Physics is Fun! – Henry Hilgendorf & Ethan Kantz (evening program)
- Game Changineer – Dr. Michael Hsiao
- Careers in Construction - Mrs. Ann Lee
- Granata Lab visit – Dr. Robin Queen
- Wind Energy & wind Tunnel Testing – Dr. Matthew Kuester
- How Safe Is Your Helmet? – Dr. Barry Miller
- Jello Plastics – Dr. Justin Barone
- Biotech-in-a-Box: Protein Electrophoresis – Carol Ma, Haritha Gnanasegar, Alex Hyler
- Exploring CEE – Ms. Kara Lattimer
- Ground Water Hydrology & Assessing Volcanic Hazards – Mr. Gary Glesener
- DNA Extraction & Modeling – Dr. Kristy Collins
- Venture Out Portable Initiatives – Mr. Steve Creech
- AMP Lab Tours – Richard Gibbons & Jonathan Kayne
- Ware Advanced Engineering Lab Tours –program assistants
- Wind Tunnel Tours – Dr. Aurelien Borgoltz
- TREC Lab Tours – Dr. Alexander Leonessa
- DREAMS Lab tours – Callie Zawaski (graduate student)



# Outreach Programs

## Recruiting Initiative for Student Engineers

### (RISE)

#### Background

The Recruiting Initiative for Student Engineers (RISE) is a series of events for high school students held on the Blacksburg campus of Virginia Tech starting with the spring of a student's sophomore year. Students are provided with free transportation, food and a hotel room when needed for each visit. The events are:

- Spring of sophomore year: Spring Football Game
- Fall of junior year: PCI
- Spring of junior year: Engineering Open House
- Fall of senior year: Admission's Fall Visitation program

#### Fall Senior Event- Admissions Visitation

There were 51 RISE participants invited to apply for Fall Visitation on November 16 – 17, 2019. 13 were accepted into Fall Visitation, and attended the event. 29 RISE participants applied to Virginia Tech (22 CoE, 1 CALS, 2 CMDA, 2 US, 1 XT, 1 BU). 27 were offered admission and two were waitlisted (1 CoE, 1 CMDA). 13 enrolled at Virginia Tech (8 CoE, 2 US, 1 XT, 1 CMDA, 1 Business Undecided.) 2 of the students are living in Galileo, 1 is in WEST and 1 is in the Calhoun Discovery Program.



#### Fall Junior Event- PCI

9 RISE high school juniors who had previously attended the spring football participated in the November 2nd session of the Pre-College Initiative program sponsored by NSBE. 11 registered. 4 were from the Tidewater area, 4 from Richmond and 1 from Salem. Some sessions were shared with the Pathways students. This included the VT FIRE Foundry.

#### Spring Events

Due to the COVID-19 pandemic, all spring in person events were cancelled. Accepted students were offered a menu of online events during the summer of 2020. They are listed below.

- College 101, June 13, 2020, 2:00pm – 3:00pm (VT NSBE event)
- RISE Juniors Welcome, July 14, 2020, 10:30am – 3:00pm
- RISE Seniors Welcome, July 21, 2020, 10:30am – 3:00pm
- Essay Writing Workshop, July 30, 2020, 3:00pm – 4:00pm
- Cybersecurity Capture the Flag, August 4 & 5, 2020, 10:00am – 12:00pm

Descriptions of these events are below:

- College 101: This was a NSBE event that RISE participants were invited to join. Topics covered included choosing a major, scholarships, standardized testing, essay writing and college applications.
- RISE Welcome Events: 28 sophomores and 52 juniors registered for their respective events. Participants listened to a College of Engineering info session presented by Jesika McDaniel and then participated in

# Outreach Programs

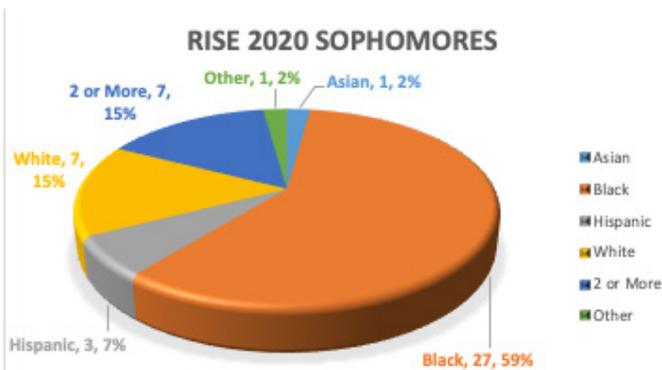
departmental breakout rooms based on survey responses led by primarily VT NSBE students. Following a lunch break, students were placed in breakout rooms and asked to design a mousetrap using the Zoom whiteboard using at least one item that students were told to bring to the meeting. Designs were shared with the full group.

- **Essay Writing Workshop:** This event was an open event advertised to C-Tech<sup>2</sup>, Pathways, RISE and their friends and family. 30 RISE participants registered. Kim Lester presented tips and techniques for writing VT's short-answer essays and had participants critique a C-Tech<sup>2</sup> application essay in breakout rooms and then report back to the main group.
- **Cybersecurity Capture the Flag:** This event was led by local K-12 teachers who had been trained by Dr. Dave Raymond, Director of VT's Cyber Range. 31 RISE participants registered. Day 1 of the program was an introduction to the field of cybersecurity including history, careers. The format of the Day 2 competition was also explained and sample problems were given and solved. On the second day, students were randomly assigned to breakout rooms and competed in teams of 3 – 4 students solving problems in a Jeopardy style format. Prizes were mailed to the winning team.

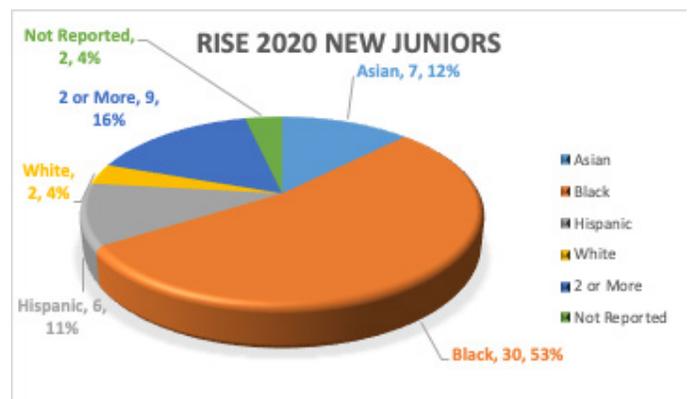
In addition to the events above, a RISE Instagram account @vtrise was created to keep students informed of upcoming events as well as other opportunities and events. Profiles of current RISE students and former RISE students who were matriculating at VT in Fall 2020 were featured on the account if permission was given by the student.

## Demographics

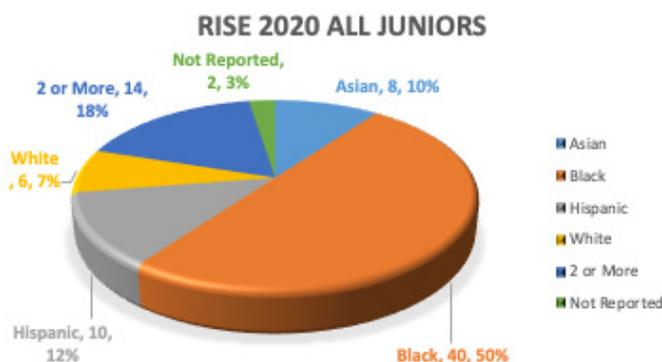
There were 46 new sophomores accepted into the program. 26% were 1st generation college students (neither parent has a four-year college degree). 48% were female, 50% were male and 1 student did not identify a gender.



There were 56 new juniors accepted into the program. 43% were 1st generation college students (neither parent has a four-year college degree). 36% were female and 64% were male.



Overall, the RISE juniors (56 new + 24 returning = 80) were 34% 1st generation. 36% were female and 64% were male.



# Outreach Programs

## TechGirls

### Background Information

TechGirls is a program of the U.S. Department of State, administered by Legacy International in partnership with CEED. It is an international summer exchange program designed to empower and inspire young girls from the Middle East, North Africa and Central Asia to pursue careers in science and technology. It is coordinated by Legacy International. The program runs for three weeks, with the CEED office providing programming for two of those weeks. Participants take part in a four-day coding class, a four-day cybersecurity class and are exposed to various fields of engineering while learning about life at an American University. 52 young women ages 15 – 17 from Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine, Tunisia, Uzbekistan, Tajikistan, Kyrgyzstan, and Kazakhstan attended the VT portion of the camp from July 14 – July 26, 2019. As part of the cultural exchange, ten US high school young women also participated in the classes. TechGirls provided eight staff members for the camp as well as handling marketing and participant applications and selection. Six student staff assisted with the program, giving a campus tour, leading ice breakers and a watercraft challenge activity, attending the etiquette dinner, chaperoning groups between activities and driving vans to various locations. Tawni Paradise, a CEED graduate student and Engineering Education PhD student, served a co-coordinator.

Student Staff were Aniya Cuffee, Jacinda Djossou, Caroline Dyson, Arin Ofir, Cynthia Hampton, and Nola Storey.

### Activities and Presentations

Participants spent the first four days at Tech in either a coding class led by Dr. Stephen Edwards, Ms. Margaret Ellis and Dr. N. Dwight Barnette of the Computer Science Department, with assistance from female undergraduate Computer Science majors or a Cybersecurity Class led by Dr. Kendall Giles of the Bradley Department of Electrical and Computer Engineering.

Following the conclusion of the class, students spent two days exploring various engineering disciplines with hands on activities and lab tours led by engineering faculty and graduate students. These included:

- Full Cabin Driving Simulator - Dr. Eskandarian, ME
- Sand Castle Challenge – Dr. Stark, CEE
- Machine Learning and Artificial Intelligence – Dr. Yi, ECE
- Using excel to solve optimization problems – Dr. Xie, ISE
- Metal Casting – Dr. Druschitz, MSE
- Structural Engineering - Design to Prevent Failure – Dr. Hebdon, CEE
- Making Live Robot Theater – Dr. Jeon, ISE
- Hands-on Biomechanics – Dr. Srinivasan, ISE
- Energy Harvesting – Dr. Zuo, ME
- Teaching Computers – Ms. Wong, Hume Center
- Plasma Science from Laboratory to Astrophysics – Dr. Srinivasan, AOE
- Admissions – Mr. Tyler Oxley & Ms. Luisa Burgos
- Etiquette Dinner – Ms. Heidi Gilbert, Career and Professional Services
- Etiquette Dinner Keynote – Ms. Jamie Helmer, ECE



# Outreach Programs

## Student Programs and OutReach for K12 (SPARK)

### Overview

SPARK (Student Programs and OutReach for K-12) was originally created in the fall of 2016 to expand upon the mission of the Galipatia Outreach Committee. Our mission is to give local students the opportunity to explore STEM, particularly engineering, in a hands-on fashion with the hope to inspire a love for STEM. The club partners with local elementary schools in Montgomery County, Virginia to spark enjoyment and curiosity in STEM fields from an early age through interactions with Virginia Tech students. Key objectives are to teach elementary school students engineering problem solving skills and provide hands-on experience. SPARK is a student run club that draws volunteers from the entire Virginia Tech student populations; it is not limited to any major or year. This year we mainly worked with 5th grade classrooms, with students from two different elementary school. SPARK hosted 7 lessons, with 39 volunteers overall. Unfortunately, during the 2019-20 school year we were only able to present our Cookie Mining lesson as a result of scheduling and COVID, with no lessons occurring in the spring of 2020. This also meant that an on-campus day for students from Floyd County scheduled for March 2020 did not occur. The biggest takeaway from this past year is that some of the lesson plans, as well as the volunteer and lead trainings should be reevaluated to ensure we are best meeting the needs of the teachers and students.

### General Lesson Structure

Every lesson uses the same basic format. It includes a lesson plan, a student worksheet, and a powerpoint presentation. The powerpoint presentation typically starts by asking students what they already know about the main topic of the lesson. After establishing the student's baseline knowledge, a video on the topic is shown. The videos are aimed to be educational and age-appropriate. After the video, students are asked questions, both verbally and on the worksheet, about what they watched; discussions are encouraged at this time. Next, the main objective of the lesson is introduced along with the engineering design process and any constraints. Once the students understand their objective, they then form groups and create a plan of action. Their plans must be approved by the volunteers before they are given time to complete the objective. After the design period ended, the students present what they have accomplished as well as provide positive feedback on another group's project.

### *Cookie Mining*

Students learn about Mining Engineering and the importance of mining in society. This is achieved through the use of chocolate chip cookies. The cookies represent the student's mine site and the chocolate chips the ore to be mined. In addition, the students learn about mine economics through the allocation of limited funds. They are required to purchase the mine site, any necessary equipment, and save money for operating time. Students also have to consider social responsibility and be good neighbors by limiting waste "rocks" (crumbs) surrounding the mine site. This exposes students to the possibilities of mining as well as budgeting and economics.



# Outreach Programs

---

## Women's Preview Weekend

### Overview

Women's Preview Weekend coincides with Hokie Focus each year. The group targeted for participation this year was women who have been offered regular admission to the College of Engineering to help advocate Virginia Tech and Engineering. WPW was modeled after the previous year. WPW starts on Saturday evening to allow participants to attend the Hokie Focus admissions events on Saturday afternoon before Women's Preview Weekend.

NOTE: Due to covid-19, Women's Preview weekend was cancelled.



# Student Transition Engineering Program (STEP)

After accepting the offer of admission to Virginia Tech, engineering students and those second-choiced (i.e., admitted into university studies or another major after not being accepted into engineering) were provided the opportunity to participate in the Student Transition Engineering Program (STEP) this past summer from June 23rd – July 27th. Through STEP, participants took part in an intensive program, with both academic and social components, designed to ease the transition from high school to college and provide students with opportunities to become familiar with Virginia Tech and many of the available resources.

Throughout the program, students learned the difference between high school and the more demanding and academically intensive college experience through: instruction in chemistry, chemistry lab, mathematics, and engineering from Virginia Tech faculty and graduate students; attending seminars about research, study skills, time management, and professional development; and attending lunches with engineering faculty members and graduate students from numerous departments. Compared to previous years, this was the first year that we did not offer chemistry lab. Instead of chemistry lab, studio hours were implemented into the schedule. During studio, tutors provided by CEED as well as the Student Success Center, provided assistance to the STEP students.

STEP 2019 began with 91 participants. The program began with 27 females (30%), 64 males (70%). Racial and ethnic identification included:

<b>Race/Ethnicity</b>	<b># of Students</b>	<b>Percentage</b>
Asian	21	23%
American Indian or Alaska	0	0%
Black or African American	13	14.3%
White (other than Hispanic)	40	44%
Hispanic/Latino	13	14.3%
Two or more	3	3.3%
Not Reported	1	1.1%

Participants were housed on the first through third floors of Main Campbell Hall. Residence Hall Advisors (RA) and the Program Assistants (PA) each lived in the building as well. The PA was given a \$500 budget and coordinated social activities during the evenings and weekends, including a campus tour, blueberry picking, thrifting trips, hiking trips, volleyball, cookouts, etc. The RAs hosted a group activity designed to build community and challenge students to effectively work together as well as impacting their leadership and team skills during their first week at Virginia Tech. An undergraduate student panel was also held to provide separate perspectives from current engineering and STEP alumni students.

Professional development was enhanced with activities conducted by Deloitte, who discussed project management software and engineering consulting, General Electric, who provided participants the opportunity to engage in a hands-on engineering project with real-world constraints, along with Northrop Grumman, Dominion Energy, Torch Robotics, and 1901 Group, who provided students an opportunity to meet professional engineers in the industry and held Q&A sessions. An etiquette dinner was also hosted, assisting students on manners and behavior in anticipation of future interviews and business meetings held over a meal.

Through academic advising, students regularly met with current Virginia Tech graduate students. The topics discussed included: program rules & regulations, navigating Hokie Spa, note-taking, study-habits, time

# Student Transition Engineering Program

## (STEP)

management, engineering majors, stress management, goal setting, resume building, and student organization opportunities.

Faculty Lunches and Research Seminars provided an opportunity for faculty members from numerous engineering departments to speak with students. Each participant was required to sign up for one research seminar each Friday and three faculty lunches during the middle three weeks of the program.



Peer tutoring was provided to students. A total of six tutors; three hired by the Student Success Center for math and chemistry, and three hired by CEED, were available to students during the week for walk in assistance. Students also had the opportunity to attend planned review sessions with tutors prior to tests. Each tutor worked approximately 5 hours per week on a rotating schedule to provide assistance.

### PERFORMANCE DATA

In the 2019 curriculum, we used faculty to coordinate the chemistry and math class, while engineering, involved graduate teaching assistants. One full time faculty member led a single chemistry section all students attended. Two full time faculty members led two different math sections. We hired 4 RAs and a part-time program assistant, which made it easier to manage the participants; this also provided participants with multiple upperclassmen whom they could go to for assistance when necessary. All 4 RAs were responsible for the entire building collectively. The grades are provided below:

#### *Chemistry*

Grade range	# of grades	Percentage
A range	22	24.2%
B range	18	19.8%
C range	15	16.5%
D range	12	13.2%
F	24	26.3%

#### *Math*

Grade range	# of grades	Percentage
A range	22	24.2%
B range	41	45.0%
C range	17	18.7%
D range	9	9.9%
F	2	2.2%

Additionally, 66 (72.5%) students passed the Math Readiness exam and 16 (48%) non-engineering students were admitted into the College of Engineering after they maintained a B or higher in each of the four courses of the total of 33 non-engineering students that participated in the program.

#### *Engineering*

Grade range	# of grades	Percentage
A range	46	50.5%
B range	27	29.7%
C range	17	18.7%
D range	1	1.1%
F	0	0%

# Hypatia/Galileo Residential Communities

## Background Information

Hypatia, a learning community for female engineering students, is designed to bring together students in a residential environment to provide encouragement and support in their pursuit of a career in engineering. This community is currently housed on the ground, 1st, 2nd, and half of the 3rd, 4th and 5th floors in Lee Hall. The first cohort of the first-year program was established academic year 2001-2002 and the second-year component was added in academic year 2004-2005. The third-year component had its inaugural year in 2009-2010.

Galileo, a learning community for men in engineering, is a program designed to incorporate similar aspects of Hypatia. The program is housed on the 6th and 7th as well as half of the 3rd, 4th and 5th floors of Lee Hall. The first cohort of the first-year program was established academic year 2005-2006 and the second-year component was added in academic year 2007-2008, and the third-year component had its inaugural year in 2009-2010.

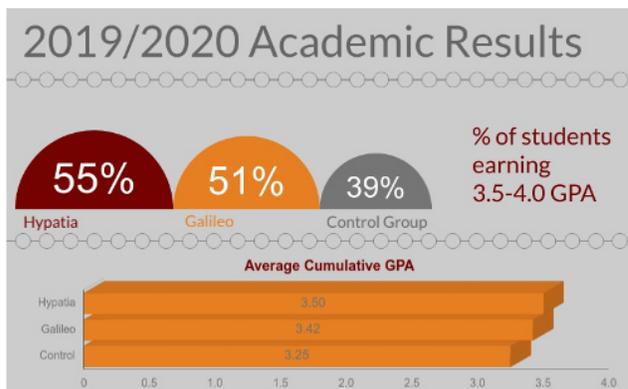
Both communities completely fill the entire building of Lee Hall of over 811 beds. Upper class students take on leadership roles as mentors, committee members or on the Galipatia Leadership Teams (GLT). All committee members and mentors are required to live in Lee Hall. GLT have the choice of living in Lee Hall, another location on campus or off campus. In the 2019/20 year 11 of the 38 GLT lived in Lee Hall.

## Participants, 2019-2020

- Galileo had 47 upper class mentors and committee members
- Hypatia had 75 upper class mentors and committee members
- A team of 38 Juniors and Seniors participated in the Galipatia Leadership Team (GLT) to help manage the mentor and committee process

First-year Hypatia, 291 females		First-year Galileo, 403 males	
Ethnicity	#	Ethnicity	#
American Indian / Alaskan Native	0	American Indian / Alaskan Native	0
Asian	51	Asian	50
Black / African American	11	Black / African American	21
White	171	White	265
Native Hawaiian/Pacific Islander	1	Native Hawaiian/Pacific Islander	1
Hispanic / Latino	25	Hispanic / Latino	34
Two or More Races	15	Two or More Races	15
Unreported	17	Unreported	17
<b>First Generation</b>	<b>37</b>	<b>First Generation</b>	<b>60</b>

## First Year Academic Performance



## Highlights

- 91 upper class students served as paid mentors for the first year students. Mentors were interviewed and selected in Spring 2019 and attended various training sessions preparing for their role in Fall 2019. The mentor program officially ran from August through the end of October for a ten week time period. Many relationships continue beyond the ten weeks but on an informal basis.

- A team building event with mentor groups included a “Blacksburg Expedition” the first weekend of the fall semester where groups did a community scavenger hunt and dinner together in small groups.



Teams also included a stop at the CEED “O” (Opportunities) Show. This event was a large engineering student organization fair with over 60 groups represented for students to connect with.

- Over 13,000 hours of service were contributed to the local community by first-year students during the fall & spring semesters in a wide variety of Service Learning projects and K-12 STEM outreach activities.

- Students are encouraged to participate in the faculty dining program to invite their faculty to eat with them for their course requirement in the fall community activities assignment. We also continued the Faculty Slush Rush Fridays in Lee Hall as part of our commitment to engage faculty with our students. Faculty came to Lee Hall to talk about research, hobbies and their path in engineering while enjoying slushies with our students every Friday of the spring semester. Over 80 faculty participated in these events, many attending multiple dates.

- Students who fell below at 2.5 GPA at the end of fall semester were invited to participate in a “Jump Start” program at the beginning of the spring semester. At this event students planned out their calendar including all class meeting times, exams, study schedule and other events.

- All first year students who fell below a 2.5 GPA in the fall semester were also required to continue meeting with their Galipatia course instructor throughout the spring semester. These meetings were used to ensure students were keeping on track with their academic progress.

- Galipatia Upper Class Committees provided over 230 events for the first year students to participate in during the fall and spring semesters. The committees sponsoring these events were Academic Support, Outreach, Service Learning, Professional Development and Social. The Communications Committee produced weekly newsletters that were hung in the bathroom stalls throughout the residential hall and a weekly event email for all events sponsored by the committees listed above. They also managed the Google calendar for the community; [https://calendar.google.com/calendar/embed?src=galipatiacommunity%40gmail.com&ctz=America/New\\_York](https://calendar.google.com/calendar/embed?src=galipatiacommunity%40gmail.com&ctz=America/New_York)

## First Year Student Course Content

The two credit course taken by freshmen participating in Galileo & Hypatia focuses on professional development. Due to the timing of the Career Expo sponsored by the Student Engineering Council the first few weeks of the course focus on resume prep, mock interviews and practicing 60 second introductions. Students also research companies they plan to visit with at the Expo and then debrief after their experience going to Expo.

Elements also include tools to help with the transition from high school to college. Assignments such as the initial academic plan help students take ownership of their own progress in each course they are taking. This assignment has students track in an excel spreadsheet each assignment, quiz and test in all their classes. The document is updated at a mid-semester check in with their small seminar instructors and again at the end of the semester. By the end of the semester the document will help them calculate the grade they need to make on their final exam to get their desired overall grade for the course.

The instructor team also continued a partnership with Dr. Christian Matheis to develop and implement a series of workshops designed to help the students with a professional skillset related to diversity and inclusion. The first

---

# Undergraduate Programs

workshop module, Cross Cultural Communication was implemented in October. The second module, Identity & Culture was delivered in November. Students were given the choice to attend these workshops in their weekly course meeting where Hypatia and Galileo are separated by gender or at a Tuesday evening co-ed workshop.

Other parts of the course are designed to help students become connected to the Virginia Tech community. Participating in community service, social activities and lunches with faculty members are just some of the assigned ways we accomplish this goal.

In the spring semester we evaluated the course through focus groups led by the GUIDE Research Group under the direction of Dr. Walter Lee.

### **Upper Class Leader Course Content**

All upper class student leaders living in Lee Hall who are not serving on the GLT or ILT serve on a committee for the community. The work they do in the committee is part of a one credit course. The course meets in both the fall and spring semesters. The grade they earn for the course is held with an incomplete in the fall semester until the work in the spring semester is complete. At the end of the spring semester the grade is released.

The six committees are:

- a. Academic Support – holding regular “office” hours to help students with homework, leading and organizing review sessions, etc.
- b. Data Management – this team created and maintained a web based app for committee events. First year students were able to RSVP to events and see their event attendance records through this app. First year seminar instructors were also able to view attendance records. Committee members submitted their event plans and GLT were able to approve events and manage the work of their team.
- c. Professional Development - hosting events to prep for career fairs, hosting workshops to help prepare students for various professional aspects of college and industry
- d. Social – planning and organizing events for students to interact and meet each other outside of class
- e. Communications & Media – collecting information from the other committees to distribute to 1st year students in a weekly email, weekly newsletter and facebook page. Collecting information and photos for website.
- f. Service Learning – planning and organizing community service activities for the community.
- g. Outreach – planning and organizing K-12 efforts including hands-on activities for students to learn about engineering and hosting school visits on campus.
- h. Studio Training – this new committee managed the training process for community members to receive training and support for the tools and equipment in Studio 1 in Lee Hall.

Some examples of the types of events the upper class leaders organized for the community are listed below.

- a. Academic Support – Homework help hours, Exam Reviews, Test Survival Skills Workshop, Problem Solving Skills Workshop, Intro to Spatial Relativity, Getting to Know Your Major, Lab Tours
- b. Professional Development – Programming Technical Interviews Practice, Minute to Win It Sales Pitch Practice, Cover Letter Workshop, Resume Review, Prezi Workshop, Dealing with Professional Putdowns, Summer Research Seminar
- c. Social – Intramural sports, football viewing parties, Big Event breakfast, movie nights, talent show, game nights and League of Legends Tournament
- d. Service Learning – Micah’s Backpack, Galipatia Mini Big Event, Habitat for Humanity, Warm Hearth Pancake Dinner, Project Linus, Roanoke Rescue Mission Food Kitchen, Letters to Troops, Big Event, Relay for Life
- e. Outreach – robotics team mentoring, class room visits, Kids Tech University, STEM family night at Blacksburg Library, October Sky Festival, and Abingdon STEM Event

# Peer Mentoring

## Background Information

Mentoring occurs when a person who has successfully negotiated a particular area shares their knowledge and experience to assist others who are going through a similar process. The Center for the Enhancement of Engineering Diversity (CEED) works to foster this type of relationship by providing the opportunity for all first-year College of Engineering students to be matched with a mentor from a select group of upper-class College of Engineering students. Mentors help first-year students by serving as resources for academic issues, assisting in developing skills, and acting as a sounding board for new thoughts and ideas.



The mentoring programs are one part of the CEED's on-going effort in creating a support network to increase the retention of students in the College of Engineering. The goal is for the results of these efforts is to benefit not only the student, but also the university and society. The four programs targeting first-year freshmen and transfer students include:

- Academic Hispanic OutReach Alliance (AHORA)
- Black Engineering Support Teams (BEST)
- General Undergraduate Engineering Support Teams (GUEST)
- Women in Engineering Support Teams (WEST)
- Network of Transfer Students (NETS)

For students who elect to participate, they are placed in a mentoring group of approximately 8-12 first-semester College of Engineering students with an upper-class student serving as mentor. For the first two weeks, they all meet as a group, providing mentees with the opportunity to meet other students like themselves. After the first two meetings students have the option of continuing to meet as a group each week, meeting with their mentor one-on-one, receiving assistance through electronic mail, or deciding the program does not fit their needs. The mentoring programs are designed to best serve the many needs of today's students.

## Mentors

CEED utilizes a peer leadership model to help with the administrative tasks of the program. These Peer Leader positions are limited to students who have participated in the program as a mentor. Many of the Peer Leaders also participated in the program as mentees as well. Their duties include conducting the weekly seminar with mentors, reading reports and providing feedback to mentors, and meeting weekly with CEED staff.

A call for mentors went out in the spring of 2019 on the engineering undergraduate listserv and 154 applicants applied to be mentors for fall 2019. Of these 154 applicants, 26 were returning mentors and 128 were new applicants. After the interview and selection process 79 mentors were hired.

## Participation and Academic Performance and Retention

The table below lists the individual support teams' average GPAs at the end of the 2019 fall semester and Academic Year 2019-2020. Students who left the program, referred to as dropouts (DO) are also listed. While our drop out numbers appear to be quite low this is somewhat deceiving. The number of drop outs is self-reported.

Information from mentors tell us that quite a few freshmen did not participate in the program but since the mentees didn't respond to us to tell us they were dropping out they were not included in the count.

This year we did ask the mentors to tell us which mentees they perceived as dropping out because they either told the mentor but did not notify CEED or simply stopped attending the program and responding to messages. This data collection along with the self-reported drop out gave us an approximate 11.9% drop out rate for all mentees.

Team	Mentors	Mentees	DO
AHORA	2	15	1
BEST	3	27	2
GUEST	62	579	75
WEST	9	68	3
NETS	2	9	2
<b>Total</b>	<b>79</b>	<b>698</b>	<b>83</b>

Average Mentee GPA Fall 2019	Average Mentee GPA Spring 2020
3.15	3.13

### Mentor Training

Mentors participated in two training sessions. The first session was a joint mentoring training with the Galipatia mentoring team held in on Sunday, April 14th for four hours using a conference format. This training was used primarily to let the mentors get to know each other and refine their mentoring skills through several breakout sessions. These breakout sessions covered topics including Mentor, Mentees and Mental Health, Life Hacks, How To Do College The Smart Way, Mentoring as a Junior or Senior, Communicating and Leading a Diverse Group, Mentoring Mythbusters, and Design your Dream Mentor Meeting. The breakout sessions were led by the Peer Leader team and the Galipatia Leadership Team.



The second training was held in August before classes began. At this meeting mentors were given their handbook that covered information they needed to know, collected call logs from communication with their mentees from the summer, provided a peer-to-peer critique for their resumes, and other logistical details for the program. The mentors were also given the schedule of topics and brainstormed meeting ideas for each of the topics discussed in the following section.

### Weekly Mentor Meetings

The Peer Leaders collaborated on one weekly meeting time where all the mentors and the Peer Leaders met for the first ten weeks of the fall semester. This seminar meeting was designed to prepare the mentors for the upcoming weekly mentee meeting and debrief from the previous week's mentee meeting.

At the meeting the Peer Leaders would give general announcements to the large group and then break into teams for more individual interaction with the mentors. Each Peer Leader was assigned a team of mentors to meet with each week for consistency. During the small group time Peer Leaders would ask mentors about any concerns they had for mentees and the group would brainstorm ways to help. They would also use this time to help discuss ways to make the mentee meetings more fun and interactive so the mentees would want to attend.

The weekly topics for the mentor/mentee meetings are listed below.

Week 1 - (8/26) – Recap of O-Show, Navigating the first week of classes - take them to the career center. Help them order their books - free and for sale on FB, renting on Amazon, getting online copies. Introduce canvas and google drive/calendar. How to take notes (OneNote).

Week 2 - (9/2) – Expo Prep Event (no additional meeting is required). You will still likely want to help mentees navigate any areas of Expo Preparation prior to attending Engineering Expo (Additional resume reviews, elevator speeches, etc.), Gobblerfest Sept. 6!!

Week 3 - (9/9) – How did Engineering Expo go, What can be done better and improved upon for future career fairs, How to revise a resume after a recruiter looks over the resume, Follow-up emails with employers, professionalism and emails, Career Services, Handshake (New Hokies for Hire), Professional Networking and LinkedIn. Go over study habits/tactics for upcoming tests (specifically chem, calc). Show unique study spots (Johnston, NCB, Hancock 1st floor, Hancock CEED lounge, etc.)

Week 4 - (9/16) – How to correctly address roommate issues, off-campus housing vs on campus housing (RA, LLCs mentoring, WAJ contracts), How the bus system works/How to get places off-campus

Week 5 - (9/23) – Understanding the importance of office hours, How to “fail” a test and recover from it, On-campus resources (Tutoring, Math Emporium, Academic Success Database, etc.), Plan an out-of-the-box meeting. Navigating Fall Break plans.

Week 6 - (9/30) – Mental and physical health, Cook Counseling Center, McComas and War Memorial Gym and gaining a free pass outside of free week at the beginning of the semester, Perform an out-of-the-box meeting.

Week 7 - (10/7) – Help mentees navigate the second round of exams. Campus resource document, Galipatia grade tracker, Major Scoop overview.

Week 8 - (10/14) – Major Scoop Event. You should still meet with your mentees to help them navigate Course Request. An Introduction to Course Request and the Timetable of Classes, An introduction of exploring engineering majors and picking a major that is right for them. Introduce mentees to your friends/fellow mentors in other majors, if needed.

Week 9 - (10/21) – Revisiting time management strategies: What has worked and what can be improved upon, Checking meal plan status, using VT app (Hokie Mobile, MobileID), Strategies for managing time for non-academic and every-day type items (laundry, meals/hanging out with friends, grocery shopping, etc.), Communicating about going home for Thanksgiving Break, and feeling homesick.

Week 10 - (10/28) – Undergraduate Research/ Design Teams, What does an engineer look like moving forward (second semester, sophomore-senior year) at Virginia Tech and in the workplace, Presentations/Group Projects

### **Large Events**

1. CEED “O” Show 08/24/19
2. Expo Prep Events 09/03/19 & 9/4/19
3. Major Scoop Event 10/15/19

# Jump Start-An Academic Recovery Program

## **Background Information**

JumpStart Day is an event focused on academic development hosted annually by CEED on Martin Luther King Jr. Day. The event typically occurs on the Monday before spring semester classes start. This year, all students in Galileo and Hypatia with below a 3.0 GPA were invited to the event. Multiple emails were sent to inform and invite the students. The students participated in JumpStart Day activities designed to increase confidence in their abilities, to assist them in improving their future grades, as well as to let them know that they were not alone in their situation.

The event was held on January 20, 2020 from 10 am to 2 pm, and 18 first-year engineering students attended.

The event was organized and facilitated by Graduate Teaching Assistants (GTAs) for the Hypatia and Galileo first year seminar. Upper-class Student Leaders from the living learning communities who had experienced similar academic difficulties were also invited to help lead portions of the event to share their struggles and successes. Conor Gallagher was the event leader for Jumpstart Day 2020.

## **Marketing**

The eligible students were contacted by GTAs via email with sign up information and were also given information about JumpStart Day by their first-year seminar instructors.

## **Activities and Presentations**

JumpStart opened with a speaker who was Dr. Watford. Conor presented a PowerPoint presentation for the event that outlined activities and provided resources for the students that also can be found in the CEED drive. Activities were geared towards opening up conversations among the students, including:

- Drawing Randolph Hall without looking
- Life Aspirations
- Index card goal setting activity
- SMART Goals for long/intermediate/short term
- Paper Cup Activity
- Five Whys
- Finding game
- Spending Game
- Organization skills

Additional topics that were presented were time prioritization strategies such as prioritizing difficult tasks during times of the day when the student is most productive. Additionally, the Eisenhower Matrix (Urgent-Important Matrix) was presented. Different note taking strategies and styles were also presented.

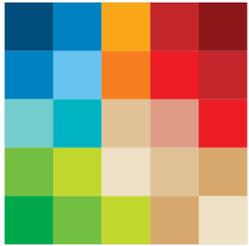
After all the information was presented, the time remaining was spent setting up a calendar with important dates such as due dates, tests dates, and drop deadline. Time was also allocated for students to make a grade calculator to use in the future.





# Our Sponsors

---



Altria

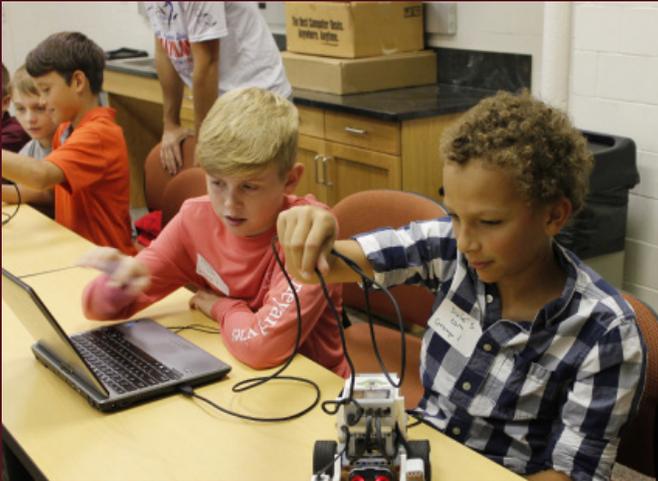
 **General Motors**



***NORTHROP GRUMMAN***

---

# Center for Enhancement of Engineering Diversity...



...28 Years and Counting