

Engineering Open House Presentation Schedule With Descriptions



First Session: 9:05 am - 9:55 am

Galileo & Hypatia Living Learning Community Session/Virtual Tour: Come hear about the engineering living learning communities for first year students and learn about the work we do to help students have a successful first year at Virginia Tech. We will also show a virtual tour of Lee Hall! You will see a typical bedroom, common lounge spaces and our maker space with 3D printers, laser cutters and other tools available to the students in our community. You will also have the opportunity to talk to our students and ask questions about the community.

Presented by: Susan Arnold Christian, Hypatia and Galileo Students
Brush Mountain Room

Undergraduate Admissions: Learn about our new undergraduate admissions process and what is needed to apply to the College of Engineering at Virginia Tech.

Presented by: Dannette Beane
Commonwealth Ballroom

Aerospace & Ocean Engineering: Grand Challenges and Career Prospects: The fields of Aerospace and Ocean Engineering made some of the most significant contributions to humankind in the 20th Century including invention of the airplane, spacecraft, nuclear submarine, and exploration of the solar system. The 21st Century is upon us, and bringing innovative ideas to market requires a flexible high-technology Virginia Tech engineering education more than ever. On-demand mobility (i.e., flying cars), autonomous vehicles of all types (ocean, space, atmospheric), and environmentally-responsible airplane and ships are just a few examples. Come to this presentation to learn about the AOE curriculum, job and career opportunities and some of the game-changing grand challenges that you are likely to see over the next 30 years of your career.

Presented by: Dr. Eric Paterson
Graduate Life Center (GLC) Multipurpose Room*

Civil & Environmental Engineering: The Built Environment: Civil engineering focuses on the built environment which includes a lot of pieces of our society. Come and find out why this could be the right major for you! We'll tell you what the CEE Department at VT has to offer! Choose your interests as you like within construction, environmental, geotechnical, land development, materials, structural, transportation and water resources!

Presented by: Dr. Sam Easterling and Kara Lattimer
Haymarket Theater

Space Science and Engineering (Electrical and Computer Engineering): We will describe research at Virginia Tech regarding exploration of the geo-space region as well as technologies developed at Virginia Tech that facilitate that exploration. We will discuss the significant student involvement in that research.

Presented by: Dr. Scott M. Bailey
Monterrey Tec Room-Squires 232

Center for the Enhancement of Engineering Diversity: This session intends to provide an overview of the services and programs offered by the Center for the Enhancement of Engineering Diversity (CEED). In addition to discussing CEED's mission and goal of helping all engineering students, we will also discuss how to get involved in the Student Transition to Engineering Program (STEP) and the CEED Peer Mentoring Program. Both programs are very popular with incoming students with approximately 100 students participating in STEP each summer and between 500 and 700 students participating in CEED Peer Mentoring each fall.

Presented by: Josh Dolinger
Mountain Lake Room-Squires Room 147

Careers in Construction (Construction and Engineering Management): This presentation will challenge some of the stereotypes you may have about the construction industry and describe how our program prepares students for careers as cost estimators, virtual designers, project engineers, site superintendents and project managers.

Presented by: Dr. Josh Iorio
Squires Room 219

Rare Earth/Critical Minerals from Coal Waste (Mining and Minerals Engineering): Cell phones, computers, batteries, and many other modern products rely on very specialized minerals and metals that are difficult to produce using conventional approaches. To address this societal issue, researchers at Virginia Tech are developing advanced separation technologies that will provide new opportunities to produce these resources from unconventional sources. This presentation will describe the state-of-the-art research in this area as well as the potential opportunities for future students.

Presented by: Dr. Aaron Noble
Squires Room 234

Chemical Engineering Academic & Career Opportunities: Opportunities for study and careers in Chemical Engineering are described. Dr. Whiting draws on this 30+ year career in Industry both in Research & Development and Business, describing how VT ChE prepares students for a success career in the field, or in a related area.

Presented by: Dr. Gary K. Whiting
Squires Room 236

Biomedical Engineering Undergraduate Program: This session will give an overview of the newly approved Biomedical Engineering undergraduate degree and the research opportunities for students.

Presented by: Dr. Pam VandeVord
Squires Room 300

Discovering Materials Science and Engineering: In this presentation we will answer what is Materials Science and Engineering, what is MSE at VT like, what is the curriculum like, what are the career expectations of MSE students, and much more.

Presented by: Michelle Czamanske & MSE Faculty
Squires Room 342

Second Session: 10:10 am - 11:00 am

Yes! You Can Study Abroad as an Engineer! Learn about study abroad options for engineering students in all majors. Includes short-term and summer programs, and service opportunities abroad.

***Presented by: Dr. Nicole Sanderlin
Brush Mountain Room***

First Year Engineering: This presentation will provide an overview of the first year (general engineering) program at Virginia Tech and the process for becoming eligible to declare a degree-granting engineering major (i.e. Mining, Materials Science, Biological Systems, etc).

***Presented by: Department of Engineering Education
Commonwealth Ballroom***

Virginia Tech Honors College Information Session: A general introduction to the Virginia Tech Honors College. Dean Paul Knox will provide general information regarding the philosophy of the College as well as expectations from students. A brief introduction of the Calhoun Discovery Program will be provided by Michelle Kovac.

***Presented by: Dean Paul Knox
Graduate Life Center (GLC) Multipurpose Room****

Civil & Environmental Engineering: The Built Environment: Civil engineering focuses on the built environment which includes a lot of pieces of our society. Come and find out why this could be the right major for you! We'll tell you what the CEE Department at VT has to offer! Choose your interests as you like within construction, environmental, geotechnical, land development, materials, structural, transportation and water resources!

***Presented by: Dr. Sam Easterling and Kara Lattimer
Haymarket Theater***

Research and Career Perspectives in Ocean Engineering (Aerospace and Ocean Engineering): A glimpse at the future of Ocean Engineering. Discover new technologies, currently under research and development in the department of Aerospace and Ocean Engineering that are supported by the maritime industry and government agencies. Learn how the newly restructured Ocean Engineering curriculum will prepare you to become a successful engineer ready to solve current and future problems, supplying you the most advanced engineering knowledge and tools.

***Presented by: Dr. Stefano Brizzolara
Monterrey Tec Room-Squires 232***

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***Presented by: Josh Dolinger
Mountain Lake Room-Squires Room 147***

Biological Systems Engineering: BSE's Academic Advisor and 2 student Ambassadors (one from the Watershed side and one from the Biotechnology side) will present on BSE's research, curriculum, job and grad school prospects, study abroad, and comparison points related to other related COE majors.

***Presented by: Priscilla Baker
Squires Room 219***

Natural Gas and Petroleum Engineering (Mining and Minerals Engineering): The advent of horizontal drilling coupled with hydraulic fracturing over the past decade has allowed for the development of unconventional oil and gas from deep shale formations, previously inaccessible. These technologies have rapidly changed the energy portfolio of the US where the US is on a path to be energy independent by 2020 with an increase in exports of both fuels. At VT, researchers are focused on the prudent development of these resources and are currently developing a *Field Laboratory* to investigate the resource potential of unconventional reservoirs in Central Appalachia.

Presented by: Dr. Nino Ripepi
Squires Room 234

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Squires Room 300

VT-FIRE, the Virginia Tech Foundry Institute for Research and Education (Materials Science and Engineering): Virginia Tech is one of twenty schools in North America that has a Foundry Education Foundation "certified" metal casting program. This presentation will discuss the Virginia Tech foundry, education and research activities at the foundry, and employment opportunities for students specializing in metal casting.

Presented by: Dr. Alan Druschitz
Squires Room 342

Third Session: 11:15 am – 12:05 pm

Hume Center at VT: Dr. Alan Michaels will provide an overview of the Hume Center for National Security and Technology, introduce opportunities to get involved in hands on experiential learning projects, and both the scholarship opportunities and career opportunities that are available in the Defense sector.

Presented by: *Dr. Alan Michaels*
Blue Ridge Room-Squires 145

Galileo & Hypatia Living Learning Community Session/Virtual Tour: Come hear about the engineering living learning communities for first year students and learn about the work we do to help students have a successful first year at Virginia Tech. We will also show a virtual tour of Lee Hall! You will see a typical bedroom, common lounge spaces and our maker space with 3D printers, laser cutters and other tools available to the students in our community. You will also have the opportunity to talk to our students and ask questions about the community.

Presented by: *Susan Arnold Christian, Hypatia and Galileo Students*
Brush Mountain Room

Mechanical Engineering Info Session: Info session for the Department of Mechanical Engineering - curriculum overview, senior design projects, internships/co-op opportunities, etc

Presented by: *Dr. Clint Dancey, Robin Ott, Sarah Deisher*
Commonwealth Ballroom

Computer Science Information Session: Overview of academic programs and opportunities in Computer Science.

Presented by: *Dr. Cal Ribbens*
*Graduate Life Center (GLC) Multipurpose Room**

Second Year Perspective: First- and second-year engineering students talk about what it is like to be a College of Engineering Student at Virginia Tech. What all engineering students wish they knew their first and second year!

Presented by: *Engineering Students at Virginia Tech*
Haymarket Theater

Space Science and Engineering at Virginia Tech (Electrical and Computer Engineering): We will describe research at Virginia Tech regarding exploration of the geospace region as well as technologies developed at Virginia Tech that facilitate that exploration. We will discuss the significant student involvement in that research.

Presented by: *Dr. Scott M. Bailey*
Monterrey Tec Room-Squires 232

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Biological Systems Engineering: BSE's Academic Advisor and 2 student Ambassadors (one from the Watershed side and one from the Biotechnology side) will present on BSE's research, curriculum, job and grad school prospects, study abroad, and comparison points related to other related COE majors.

Presented by: *Priscilla Baker*
Squires Room 219

Environmental Responsibility in Mining Engineering (Mining and Minerals Engineering): Mines operate on time and spatial scales rarely encountered by other engineering projects. This translates to exciting work in design and day-to-day activities, and also the critical need to be good neighbors and environmental stewards. Here at VT, we're shaping future leaders to meet these and other challenges for sustainable resource production.

***Presented by: Dr. Emily Sarver
Squires Room 234***

Careers in Construction (Construction and Engineering Management): This presentation will challenge some of the stereotypes you may have about the construction industry and describe how our program prepares students for careers as cost estimators, virtual designers, project engineers, site superintendents and project managers.

***Presented by: Dr. Josh Iorio
Squires Room 236***

Grado Department of Industrial & Systems Engineering: The ISE Department Head, academic advisors, and 2 undergraduate students will provide an overview of the ISE department undergraduate program and curriculum, ISE faculty and students, and opportunities for undergraduate students in the department: undergraduate research projects, study abroad, co-ops and internships, student organizations etc.

***Presented by: Dr. Eileen Van Aken, Maggie Johnson, Paula Van Curen, and
ISE Undergraduate Student Ambassadors
Squires Room 300***

Discovering Materials Science and Engineering: In this presentation we will answer what is Materials Science and Engineering, what is MSE at VT like, what is the curriculum like, what are the career expectations of MSE students, and much more.

***Presented by: Michelle Czamanske & MSE Faculty
Squires Room 342***

Fourth Session: 1:25 pm – 2:15 pm

Big Text Data (Computer Science): Text is ubiquitous, in tweets, webpages, emails, blogs, news, publications, business documents, etc. Digital libraries help us manage these with services like searching, recommending, summarizing, classifying, clustering, visualizing, and analyzing.

Presented by: Dr. Edward Alan Fox
Blue Ridge Room-Squires 145

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Presented by: Susan Arnold Christian, Hypatia and Galileo Students
Brush Mountain Room

Research Opportunities at VT in Robotics (Mechanical Engineering): I will discuss our current research pursued in the Terrestrial Robotics Engineering and Controls (TREC) lab and the opportunities available to get involved.

Presented by: Dr. Alexander Leonessa
Commonwealth Ballroom

Computer Science Information Session: Overview of academic programs and opportunities in Computer Science.

Presented by: Dr. Cal Ribbens
Graduate Life Center (GLC) Multipurpose Room*

Electrical and Computer Engineering Information Session: Introduction to the many options available to students in the fields of Electrical and Computer Engineering.

Presented by: Dr. Jaime De La Ree and Mary Brewer
Haymarket Theater

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Presented by: Josh Dolinger
Mountain Lake Room-Squires Room 147

Engineering Curriculum and Advising-Q&A: Have questions about how your AP, IB, or dual enrollment transfer credits will count at VT? Want to learn more about the types of classes you will take for each discipline? Attend this session to ask all questions related to these topics!

Presented by: Natasha Smith
Squires Room 219

Blasting and Big Trucks - Intro to Mining Engineering (Mining and Minerals Engineering): Would you enjoy working with others to solve complex problems while working outside near an urban setting? And using the world's largest equipment in a dynamic industry that's at the base of the supply chain? Come learn about the huge industry demand for our students, resulting in significant scholarships and exciting opportunities - even working on the Mars Ice Challenge or developing a digital twin of a working quarry!

Presented by: Dr. Eric Westman

Squires Room 234

Bioinspired Science and Technology (Mechanical Engineering): The presentation will outline the general field of bioinspired engineering, the approach, present and future benefits, and bioinspiration at VT.

Presented by: Dr. Rolf Mueller

Squires Room 236

Programming the Future with Natural Language (Electrical and Computer Engineering): What would one go about designing the smart world that we are about to enter? How would we manage extremely large programs? How can we leverage natural language to help? We will discuss and demonstrate a prototype programming platform!

Presented by: Dr. Michael Hsiao

Squires Room 300

Materials Science and Engineering Demonstrations: MSE Student Ambassadors will demonstrate various lab experiments that will amaze and inspire.

Presented by: MSE Students

Squires Room 342

Fifth Session: 2:30 pm – 3:20 pm

Grado Department of Industrial & Systems Engineering: The ISE Department Head, academic advisors, and 1-2 undergraduate students will provide an overview of the ISE department undergraduate program and curriculum, ISE faculty and students, and opportunities for undergraduate students in the department: undergraduate research projects, study abroad, co-ops and internships, student organizations etc.

***Presented by: Dr. John Shewchuk, Maggie Johnson, Paula Van Curen, and ISE Undergraduate Student Ambassadors
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***Presented by: Dr. Alexander Leonessa
Commonwealth Ballroom***

Dr. Smart E-Pants (Electrical and Computer Engineering): “How I learned to stop soldering and love the loom.” I will talk about my research in electronic textiles, fabrics where sensing, computing, and communication are integrated into the cloth, for both smart garments as well as smart room furnishings. Current projects range from assistive garments for children with motion impairments to inflatable living structures for NASA. I will also talk about how the ECE program is transforming itself to allow students to choose from several paths to a degree, so that they can mix and match different parts of ECE to their own interests.

***Presented by: Dr. Tom Martin
Graduate Life Center (GLC) Multipurpose Room****

Green Engineering at Virginia Tech (Materials Science Engineering): This presentation will give an overview of the Virginia Tech Green Engineering Program and Minor. This program teaches students to consider the environmental impacts of design choices in engineering applications across disciplines. It also provides a different design perspective and skills to quantify environmental impacts and to make engineering decisions to minimize these impacts.

***Presented by: Dr. Sean McGinnis
Haymarket Theater***

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***Presented by: Dr. Scott M. Bailey
Monterrey Tec Room-Squires 232***

Intelligent Infrastructure Health Monitoring for Smart(er) Cities (Civil and Environmental Engineering): The smart city of the future requires—†sustainable—†resource management, quick recovery after natural disasters, and human comfort. Achieving these goals requires a detailed understanding of the physical interactions between people, nature and the built environment, which structural health monitoring systems are also well-equipped to capture. Dr. Sarlo's research centers on synthesizing structural measurements with other sensing systems to support the development of human-centered intelligent infrastructure systems.

Presented by: Dr. Rodrigo Sarlo
Mountain Lake Room-Squires Room 147

Tree-Inspired Water Harvesting (Mechanical Engineering): By 2025, two-thirds of the world population will not have sufficient access to fresh water. But what if the solutions to our upcoming water crisis have already been solved by nature? Here, I'll show how redwoods inspired harp-shaped fog harvesters that collect water out of thin air. I'll also talk about how mangrove trees have inspired our group to design synthetic trees for water harvesting applications.

Presented by: Dr. Jonathan Boreyko
Squires Room 219

Cool Problem in Mechanics (Biomedical Engineering and Mechanics): The presenter will discuss how mechanics principles are used to "solve" real world problems.

Presented by: Dr. Romesh C. Batra
Squires Room 234

Bioinspired Science and Technology (Mechanical Engineering): The presentation will outline the general field of bioinspired engineering, the approach, present and future benefits, and bioinspiration at VT.

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