Virginia Educators Receive Training to Prepare the Future Drone Operator and Pilot Workforce

Contact: Chris Carter, Deputy Director, cxcarter@odu.edu, 757-766-5210

Demand for small unmanned aircraft systems (sUAS, or drone) pilots and operator technicians is exploding. Innovations in vehicles, sensors, and autonomy are expanding the applications and uses of drones to collect data and solve problems in nearly every employment sector. This innovation is driving a growing need for a trained sUAS workforce. With support from the National Science Foundation's (NSF) Advanced Technological Education (ATE) program, Virginia's Community College faculty and high school teachers are at the forefront of preparing the workforce of the future.

Funded by the NSF and administered by the Virginia Space Grant Consortium (VSGC) in partnership with Germanna Community College, Virginia Tech, and the Virginia Community College System, the *Improving Pathways into the Geospatial and Unmanned Aircraft Systems Technician Workforce (GeoTEd-UAS)* project is providing professional development and training in sUAS for educators. This summer, 14 community college faculty and eight high school teachers attended the 2022 GeoTEd-UAS Faculty Institute. The five-day Institute was hosted by Virginia Tech's Department of Forest Resources and Environmental Conservation.

The educators gained hands-on experience in flying and operating drones to conduct a variety of missions. They learned how to plan and conduct manual and autonomous drone missions to collect data to make actionable decisions. Prior to attending the Institute, the educators had obtained their FAA Part 107 Remote Pilot Certificate through virtual coursework provided by the project.

"The GeoTEd-UAS Institute approach and instruction modeled best practices in teaching drones through a service-learning model. For one of our projects, educators planned and conducted operations to support the data collection needs of a local farm. This real-world mission allowed the teachers to experience the full range of tasks and duties associated with being a drone operator," said VSGC Deputy Director Chris Carter. Educators also conducted a variety of missions hosted by the Mid-Atlantic Aviation Partnership, an FAA test site at Virginia Tech.

GeoTEd-UAS is the fifth NSF-ATE project awarded to VSGC and partners to develop the technician workforce. "This team is excited to expand upon our 16-year history of building community college capacity across the Commonwealth to train and diversify the future workforce. For two years in a row, Virginia has been ranked the number one state for UAS business (Business Facilities, 2020) and our team has positioned ourselves as a leading drone workforce education provider to help employers meet the demand for workers," stated Carter.

"This project invests in Virginia's communities by advancing educational experiences and training in safe drone operations. The ability to leverage expertise and resources among partners, including Virginia Cooperative Extension, VSGC, the Virginia Community College System, and VirginiaView, are essential to extending the impacts of this multi-year program," stated Dr. John McGee, geospatial extension specialist and professor, Virginia Tech.

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"We also appreciate the financial support from the NSF-ATE National Center for Autonomous Technologies (NCAT) that allowed us to add five educators to the GeoTEd-UAS cohort," said Carter. The goal of the project is to train faculty to prepare students for success as UAS operations technicians who will plan and fly missions to collect and analyze data to solve problems and answer questions.

Visit project website for more information. http://geoted-uas.org/

GeoTEd-UAS Project Leadership Team

Chris Carter, Project PI, VSGC Deputy Director (cxcarter@odu.edu; 757-766-5210).
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David Webb, Project Co-PI, Consultant (davidewebb@outlook.com).

Below is a list of educators in the 2021-23 GeoTEd-UAS Institute cohort.

First Name	Last Name	Affiliation
Melinda	Alexander	Northern Virginia Community College
Trevor	Brinkman	Surry County High School
Ben	Casteel	Virginia Highlands Community College
Salah	Garada	Reynolds Community College
Judy	Gill	Tidewater Community College
Jacqueline	Gooden Seay	Reynolds Community College
Debbie	Leech	Central Virginia Community College and Jefferson Forest High School
Laurie	Limoge-Jamerson	Orange County High School
Sandra	Lovell	Germanna Community College
Diana	Merkel	Germanna Community College
Tamara	Muldrow	Germanna Community College
Jillian	Noel	Germanna Community College
Breyon	Pierce	Surry County High School
Harry	Schoeller	Germanna Community College
Seth	Shantz	Harrisonburg High School Governor's STEM Academy
Melissa	Stange	Laurel Ridge Community College
Karen	Stoll	Blacksburg High School
Jeremy	Webb	Spotsylvania High School
Maury	Wrightson	Germanna Community College
Marsil	Zook	Germanna Community College

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Selected Pictures from the 2022 GeoTEd-UAS Institute

Photo 1 Caption: 2021-23 GeoTEd-UAS Leadership Team and Faculty Cohort following a long day of flying drones at the Mid-Atlantic Aviation Partnership (MAAP) hosted by Virginia Tech.

Photo 2 Caption: GeoTEd-UAS Educators gained hands-on flying experience conducting manual and autonomous missions.

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Photo 3 Caption: Educators using a checklist to inspect drones before conducting autonomous missions.

Business Facilities' 16th Annual Rankings: State Rankings Report. Business Facilities. Retrieved August 16, 2022 from https://businessfacilities.com/2020/07/business-facilities-16th-annual-rankings-state-rankings-report/