

## Virginia Tech students get hands-on experience at Burnshire Dam

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Professor Paolo Scardina, center, explains to a Virginia Tech student how the lab and the field differ. Max Thornberry/Daily

WOODSTOCK – Civil engineering students from Virginia Tech visiting the Burnshire Dam recently found that life in the field isn't the same as life in the lab.

Paolo Scardina is a civil engineer and professor at Virginia Tech. When Casey Harvey, a recent graduate and daughter of the owner of the dam, told him her family owned a hydroelectric plant, his interest was piqued. After taking a solo trip to the site, he organized a field trip for his class. That was only the beginning.

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students and one recent graduate who attended took the weekend of their fall break to conduct field work — all without receiving class credits.

*"What I'm seeing this weekend is the people that are here really want to be here," Scardina said. "They were giddy all week long."*

Students ranged from sophomores to graduates. Everyone drove down from Blackburn on Friday evening and camped for the weekend, heading back to campus on Sunday afternoon.



Virginia Tech students Samantha Srinivasan, left, and Hailey Edwards measure the water level in the forebay. Max Thornberry/Daily

Paul Jalowski, a senior at Virginia Tech and the undergraduate coordinator for the trip, was the one student receiving a research credit for the field work. Besides helping Scardina organize and recruit for the trip, Jalowski was also responsible for ensuring students were using appropriate methods to collect the data he will use to write a report. That report, he said, will be done by the end of the semester with *“a lot of dedication.”*

Jalowski and his peers worked with plenty of dedication to put to use in the field what they had learned in class.

*“The theories that you learn in class are very ideal,”* Jalowski said. *“You get here; the river is not like that whatsoever... it’s just putting to test your engineering assumption knowledge. The conditions in the real world are not exactly what the theories are like.”*

Kyle Drost is a senior who said Scardina is his favorite professor at Virginia Tech. When he graduated, Drost said, he is going into construction management — an area not remotely associated with water resources or hydroelectric power.

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When going into construction management, Drost hopes on a water resources trip; Drost said with a laugh. *“It doesn’t totally make sense. But I do it because I like the professor; I like his class.”*

Scardina’s influence on students inspired them to branch out of the classroom and start thinking about how they are going to make theory into reality.

*“I view all of this as a learning situation, a learning activity,”* Scardina said. *“That’s why it’s valuable for me.”*

Dr. Lee Harvey, owner and operator of the dam, was happy to open up his pet project to the students. It didn’t hurt they would give him some more insight on how run his facility more efficiently, he said.

*“One of the questions we’ve always had is how much water does it take to produce power at this site,”* Harvey said. *“They’re able to perform those measurements...we want to know is our new equipment functioning the way it’s supposed to.”*

Brooke Maloney graduated last year and went on the first trip with Scardina. She is working now but took a weekend off to join her former professor for more research.

*“The first trip was kind of an experiment,”* Maloney said, *“and now we’re figuring out the kinks and working through it. I think we’re very optimistic about where it’s going to go.”*

Using kayaks, a canoe, measuring rods and a bright pink string, Maloney prepared a team to chart the riverbed and measure the rate and amount of water flow along the dam.

A common theme among students was how the field differed from the lab. The *“clean geometry”* as Jalowski put it, doesn’t work when you leave the tidy boxes and smooth models students deal with in class.

Finding solutions to the thorny real-world problems spurred the budding engineers on.

*“One of my points to them is when I do this in class,”* Scardina said, *“all of that is perfect circumstances...this is reality. Right here. This is what we have.”*