

Air Force Civil Engineering Academy Helps Shape Careers

By Kimberly L. Wright

Young Civil Air Patrol career explorers traveled to Tyndall Air Force Base, Florida, this summer for a close-up study of military civil engineering.

Sunny Tyndall is the perfect site for cadets to learn the ins and outs of military civil engineering, because it's home to the Air Force's 823rd Red Horse Squadron/ Detachment 1's Silver Flag Exercise Site. Here, more than 4,500 people a year affiliated with various armed services, including foreign military, are trained in how to support base operations.

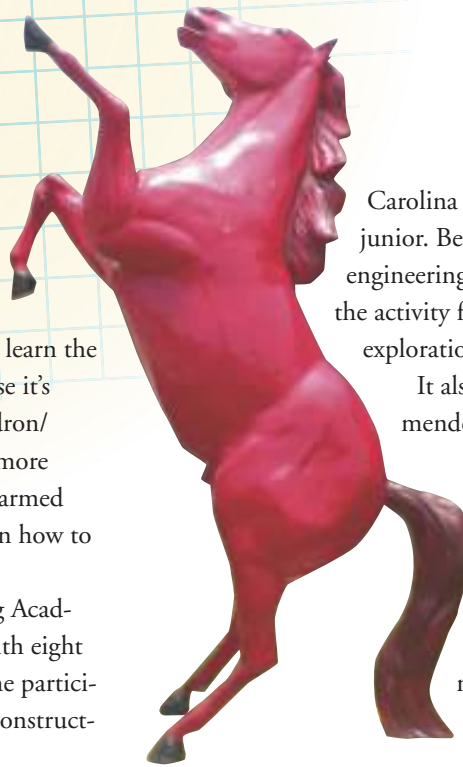
This summer the Air Force Civil Engineering Academy brought military civil engineering to life with eight classroom and hands-on sessions that allowed the participants to see civil engineering is more than just constructing and maintaining buildings on a base.

"Each of these eight is with a different shop, which are specific to a career field," said Col. David Carter, the activity director. These shops included power production, utilities, structures, heavy equipment, emergency management, engineering assistants and firefighters — all of which are separate Air Force careers.

"The staff of the 823rd Detachment 1 Red Horse tell the cadets about their career field and, whenever possible, expose them to some aspects by having the cadets do an activity," Carter said.

Among topics the cadets explored were firefighting, bridge-building and robots used to deal with explosive ordnance.

The academy was the first CAP national activity for Cadet Chief Master Sgt. Hannah Fletcher of the North



Carolina Wing, a home-schooled junior. Because she's considering an engineering-related college major, the activity fit her hands-on career-exploration needs.

It also came highly recommended.

"I emailed my cadet commander asking for recommendations for engineering-themed (National Cadet Special Activities), and she sent me information on four but also included that her brother had enjoyed

A red horse statue stands outside the headquarters of the 823rd Detachment 1. Photo by Cadet Capt. Derrick Dinwiddie, Virginia Wing

AFCEA so much he had attended twice," Fletcher said.

The cadets' wide range of experiences wasn't limited to civil engineering, something she appreciated.

"While the emphasis was on civil engineering, we interacted with material engineering, electrical engineering, mechanical engineering, industrial engineering, aerospace engineering and many more," Fletcher said.

Another academy participant, Cadet Capt. Rachel Sydow of the Virginia Wing, is studying engineering at Embry Riddle Aeronautical University. Because she didn't know anything about engineering in the military,

the academy intrigued her.

The activity was also directly applicable to her studies, Sydow said, since “I’ve been on the fence on what kind of engineering to do. It’s definitely something I want to pursue.”

The cadets were excited about the amount of hands-on activities.

“We got to talk to the Department of Defense guys and control the robots and actually got to see what they do, not just learn about it,” Sydow said. “I honestly had no idea what civil engineering in the military is. It really opened my eyes.”

“The hands-on side was extremely exciting, and AFCEA also covered a wide range of topics spanning both civilian and military areas,” Fletcher said, adding, “I have always enjoyed construction, building and big tools.”

Though she knew civil engineering is responsible for buildings on base, Sydow didn’t know about the overseas tasks, including creating a base from the contents of a box — “basically building a base out of nothing,” she said.

“It was a great experience getting to see the people

who do this in real life, and it was definitely different from what I expected, but I enjoyed it,” Sydow said.

Nine female cadets took part in the academy this year, exposing them to a career field in which women are traditionally underrepresented.

“From my view, exposing any of the cadets to the trades and engineering in general provides them with both hands-on and classroom materials and skills they would not get anywhere else,” Carter said. “The activity does not specifically target young women, but my hope is that they will get to see and hear things they would not normally experience.”

Cadets went beyond the classroom to erect a small shelter system tent. They also crawled through a “smoke house” — mimicking the conditions of a burning house — to rescue mannequins.

One tabletop exercise challenged the cadets’ creativity when faced with a challenging engineering problem. Using tape and paper, the cadets had to build a bridge large enough to span two table tops, yet strong enough to hold up at least 15 candy bars.



Cadets put up a triple S shelter as part of their civil engineering training at Tyndall Air Force Base, Florida.

Photo by Capt. Nancy Carlson, Virginia Wing



The power lecture sparked the cadets' understanding of the electrical needs of a base as well as different types of power units.

Cadets also donned "bomb suits" and controlled robots used to deal with improvised explosive devices, training that also uses realistic mannequins to hone skills for a response that could save lives in conflict areas. Both of the explosive ordnance disposal techs leading the session had completed several tours of duty in Afghanistan and Iraq, where both received injuries.

The academy definitely made an impression on the cadets.

"Spending time on Tyndall was really cool, and driving robots (with explosive ordnance disposal) was fantastic," Fletcher said. ▲

The cadets took part in several hands-on and classroom instruction opportunities, exposing them to several machines, including those used in providing electrical power.

Photo by Maj. John Payne, Virginia Wing

Maj. John Payne and Capt. Nancy Carlson, both of the Virginia Wing, contributed to this report.

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