SAME/Air Force STEM Camp

The Society of American Military Engineers (SAME) and the U.S. Air Force (USAF) are committed to inspiring the potential of America's youth with the leadership skills, motivation, and technical competence to become future leaders of our nation. To achieve the goals, the SAME and USAF collaboratively hosted a Science, Technology, Engineering and Mathematics (STEM) Engineering and Construction Camp for high school students aboard US Air Force Academy (USAFA). The intent of this effort was to provide opportunities for SAME Posts to engage in long-term mentorships with high school students and to interest them in the engineering profession through hands-on activities in construction, team building, and learning under the mentorship of SAME members and military service members.

For one week in July, students from communities throughout the United States stayed aboard US Air Force Academy (USAFA) in Colorado Springs, Colorado and engaged in hands-on engineering and construction activities such as:

- Design, construction, and testing of concrete beams
- Design, construction of doghouses
- Construction and testing of functional cardboard boats to be race in relay races
- Engineering Reaction Course (various construction themed team sporting events)
- Academy Labs in Review(various activities taught by department staff of USAFA)
- Tours of the North Gate Visitor Center(USAFA) and various architectural, engineering, construction companies off base

Derek Yen, from NAVFAC WASH, was selected to be a SAME Mentor at this camp. He alongside a US Air Force cadet and another SAME Mentor, supervised a flight of 10 high school students throughout the week.

"*The STEM camp was both a classroom and a training grounds for future engineers and scientists. It was incredibly intense as campers had to pick up new information on the fly, acclimate to a military lifestyle, and learn to work as a team. In the process, they learned engineering concepts such as force, stress, and buoyancy and applied these principles in hands-on competitions that tested their teamwork, time management and ingenuity. And most of all, they had fun. Hooyah!"* – Derek Yen

SAME/Air Force STEM Camp



The camp staff(Left to right): Todd Morrison, C1C Kai Bixler, C1C Murphy Corum, CAPT Brett Alberton(USAF), LT Ray Palazzo(USSF), SGG Lavarde, C1C Isaiah Noeldner, Erin Wheeler(Yaeger Architecture), Adam Walker(USACE), CAPT Tim Sobieski(USAF), Sharon Krock(SAME), LT Nick Fauchet, Christine Przygoda, LT Connor Pellet(USMC), LT Cameron Sheldon(USMC), PVFC Meade, C1C Macy Hoppes, LT Curtis Boyd(USSF), C1C Evan Haskins, Yvonne Lee(USAFA CES), Brittany Schultze(Black & Veatch), Ana Corcoran(M.S. Hatch Consulting), C1C Alise Crabtree, Derek Yen (NAVFAC WASH), C1C Nadine Ngefac, C1C Jacqueline Andrade. Not pictured: LTC(R) Scott Prosuch, Monica Kent(Huitt-Zollars), Maj (R) Joe Dombi, COL (R) Janice Dombi, Brian Files(NAVFAC SE).

SAME/Air Force STEM Camp



Day One: Campers designed/constructed a concrete form, and added rebars for reinforcement. Afterwards, they mixed the concrete to a consistent ratio before pouring into the concrete form.



Day Two: Campers participated in A/E/C/M firm tours and visited the new visitor center at the North Gate of USAFA.



Day Three: Campers measuring out siding for their doghouses at FERL(Field Engineering and Readiness Laboratory), a US Air Force testing facility.



Day Three: As part of the Engineered Reaction Course, campers worked together to cross a minefield without touching the ground.

SAME/Air Force STEM Camp



Day Three: As part of the Engineered Reaction Course, campers worked together to patch a PVC pipe with several leaks.



Day Four: Academy Labs in Review- LtCol Tubbs (USSF) gives a brief lecture on biology in space.



Day Four: Academy Labs in Review- LtCol Aldred(USAF) gives a brief lecture on civil engineering.



Day Five: Campers wrap up their Cardboard Canoe before the relay.

SAME/Air Force STEM Camp



Day Six: Campers finish up their doghouses with a layer of paint



Day Seven: The camp concludes with the concrete beam breaking event.