

ASME Diversity Action Grant Report

Student Section: United States Naval Academy

Student Section Chair: MIDN Aaron Brown

Address: Mechanical Engineering Department
590 Holloway Road
Annapolis, MD 21402

Phone 410-293-6510 Fax: 410-293-3041

Email m100642@usna.edu

ASME Student Section Advisor: Dr. Oscar Barton, Jr.
Dr. Ralph Volino

Phone 410-293-6510
410-293-6520

Email obarton@usna.edu
volino@usna.edu

Summary of DAG Project

Partnering Organization National Society of Black Engineers (NSBE)

Summary of DAG Project

ASME DAG Funding: \$1250.00

Total Budget: \$1250.00

Overall Attendance

Car Crash Mechanics Stem Camp	Midshipmen	8
	Faculty	6
	Plebe Midshipmen	90
	Budget	\$100.0
A Walk for Education	Midshipmen	20
	Faculty	4
	Audience	Over 85 households visited
	Budget	\$1150.00

Project 1

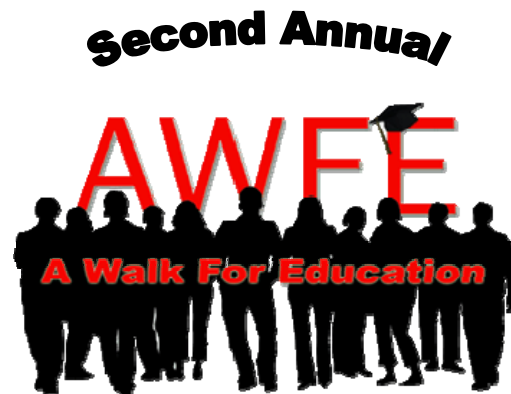
HOT WHEELS CARS CRASH MECHANICS



The United States Naval Academy has a strong Division of Engineering and Weapons which houses eight disciplines of engineering. The population of midshipmen from the African-American and Hispanic-American communities selecting any of the majors has been declining steadily. A one-day STEM camp experience which featured several activities, including car crash mechanics, was held to demonstrate how aspects of engineering are present in everyday life and to motivate the interest of these midshipmen in pursuing a major in engineering.

The objective of this project was to apply several principles of mechanics consisting of the principle of Work and Energy, the conservation of energy, and the conservation of linear momentum to determine the speed of impacting cars. Although the actual collision event is quite complicated, representing the colliding cars as particles provides a resemble representation of the accident. The exercise started with a fifteen minute power point presentation which discussed kinetic energy, potential energy, impact and friction. Teams of midshipmen were formed a given hot wheels cars, ramps, tape measurers, scales, calculators and a set of instructions to compute required velocities of cars.

Project 2



On Saturday, April 18, 2009 the USNA Chapters of the National Society of Black Engineers (NSBE) and the American Society of Mechanical Engineers hosted the *Second Annual Walk for Education at the Bywater Boys and Girls Club in Annapolis*. The event took place from 1000 to 1400 and included the Walk for Education, lunch, small group discussions, and a community celebration.

The purpose of this event was to promote academic excellence and stress the importance of education in the surrounding community and to continue a dialogue previously

developed with community leaders and the USNA community about education. Midshipmen and faculty volunteers walked door-to-door in a predominantly underrepresented minority communities distributing information about college admissions, vocational schools, GED, SAT/ACT, NSBE, ASME, USNA, and financial aid. The volunteers were able to touch over 85 households. Residents of all ages were the focus of the event. Elementary school students were entertained with a moon bounce and were highly encouraged to strive for educational excellence and the promises of a good education. During the pizza party, small group discussions were led by midshipmen to present their personal testimonies of tragedy and triumph, to discuss the life of midshipmen at USNA, and to encourage the teens and young adults and stress the importance and value of a college education. Finally, faculty and adult counselors spoke with parents and discussed the importance of positive role models in achieving academic goals.

For end-of-the-year academic achievement, the diversity director presented to the director of the boys and girls club with ten tickets to the Naval Academy's graduation and a chance to see President Barack Obama.