Maryland Mathematics, Engineering, & Science Achievement

Using Outreach to Launch Careers in Engineering, Mathematics, and Science

Paula Shelton
Executive Director

What is MESA?

MESA is a nationally recognized STEM program that provides rigorous academic support for students so they will excel in mathematics, engineering, science and technology.

MESA is also a winner of the Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring.

The Mission of MESA

MESA is dedicated to student achievement and success in mathematics, engineering, science and technology careers...

especially students underrepresented in these areas.

MESA USA

A partnership of MESA programs that presently serve over 40,000 students.

- Arizona
- California
- Colorado
- Maryland
- New Mexico
- Oregon
- Utah
- Washington

Maryland MESA

Maryland MESA is a Maryland State Department of Education Aided Institution and the 2008 recipient of the Benjamin Banneker Youth Organization Award.

Need for the MESA Program

- As the economy becomes increasingly more global and technologically complex, it is essential that K-12 STEM education be strengthened to prepare today's students for college and the needs of the future workforce.
- Additionally, there is an urgent need to develop a technologically capable workforce that can compete in the global economy.
Regions with Maryland MESA Programs

* Established in 1976 with 2 schools in Baltimore City (using California MESA model).

* Expanded to serve more than 2000 students in 10 Maryland Counties and Baltimore City.

2008-2009 MESA Student Ethnicity

2008-2009 MESA Student Gender Enrollment

MD MESA 2007 Seniors

Out of 204 Seniors from 28 schools
69% of Maryland MESA Seniors responded to the Senior Summary

- Intending to major in STEM area: 86.4%
- Attending MD Colleges: 66%
- Seniors in 2007 Database averaged 651 SAT scores in Math

How We Operate

The Maryland MESA Central Office
The Johns Hopkins University
Applied Physics Laboratory

Paula Shelton
Executive Director

Mary Connor
Operations Manager

How Do We Operate?

The Regional School Systems

- Superintendent
- Regional Coordinator
- School Principal
- MD MESA School Coordinator
- Additional School Advisors (recommended are science, mathematics, technology education, and English teachers) (300)
- Parents
- Students
How Do We Operate?

Maryland MESA Partners

- American Council of Engineering Companies - MD Chapter
- American Water Works Assoc., Chesapeake Section
- Maryland State Department of Education
- Morgan State Univ.
- Montgomery College
- Md. Space Grant Consortium
- The Assoc. of Old Crow, Chesapeake Bay Roost
- Univ. of MD - College Park
- American Institute of Aeronautics and Astronauts (AIAA)
- Black & Decker
- Baltimore Museum of Industry
- Career Communications Group
- Lockheed Martin
- National Society of Black Engineers (NSBE)
- Naval Warfare Center
- Northrop Grumman

The Maryland MESA Transition

All leading to the future workforce.

The MESA Program Provides

- Regional support
- Coordinator training
- Professional development for teachers
- Academic counseling & career exploration
- Field trips
- Incentive awards
- Scholarships and awards
- Competition opportunities
- Saturday & summer programs
- Website regularly updated with resources for teachers and students

On-Going MESA Events

- Active MESA programs in 139 schools serving more than 3,000 students.
- Up, Up, & Away Summer Program in 7 locations
- Hands on Saturday Academies
- APL High School Tours
- Pre-College Event

Competitions

- MESA Day Regional Competitions
- Statewide MESA Day
- National MESA Competition 4 day event

Problem-Solving and Analyzing

Active MESA programs in 139 schools serving more than 3,000 students. Up, Up, & Away Summer Program in 7 locations. Hands on Saturday Academies. APL High School Tours. Pre-College Event.
Collaboration and Team Building

Access to STEM Professionals

Professional Development

What's next?

Expansions and Updates

2009 Sea Perch Competition

• Expanding MESA Programs in Maryland Community Colleges.

• Expanding signature programs:
  ➢ SEAPerch
  ➢ Robotics

• Enhancing the competition challenges
Strengthening the APL/MESA Relationship

- Promoting MESA students as a pipeline for APL and our partners
- Establishing more partnerships to expand opportunities for internships/mentorships for high school students
- Seeking more volunteers to support the MESA program
- Continuing APL tours
- Enhancing and expanding our summer enrichment programs

On-Going Concern...

- Decreased funding due to budget cuts

Funding helps the bridge to success!