

SMART Maritime Teacher Institute



Barbara Murray, SMART Director and Principal Investigator

Partnering with industry and education to prepare the Maritime workforce for 2012 and beyond



Industry Partners

BAE SYSTEMS



NORTHROP GRUMMAN



A Subsidiary of Huntington Ingalls Industries



Newport News Shipbuilding
A Division of Huntington Ingalls Industries



Auxiliary Systems, Inc



GENERAL DYNAMICS
MASCO



CDI Government Services



OCEAN MARINE
YACHT CENTER



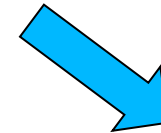
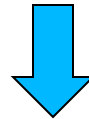
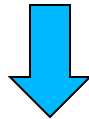
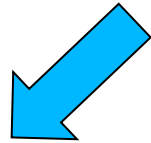
STIHL

STEEL AMERICA
FABRICATION & REPAIR

SMART Maritime Institute Seeded Programs



Regional Examples



Duval County Schools
Jacksonville, FL
*Maritime Logistics and
Advanced Manufacturing*



**Virginia Middle and
High Schools**
*STEM, Robotics, Career
Pathways*



**South Broward
High School**
Hollywood, FL
*Maritime Logistics
Academy*



BAE, HII and AMSEC
National Programs

SMART Maritime Teacher Institute
Summer 2012
APPLICATIONS BEING ACCEPTED NOW

Become a Premier
Teacher of Maritime
and
Transportation
Technologies



WHERE Hampton Roads, VA—Virginia Beach, Newport News, and Norfolk -home of the Port of Virginia, the 5th largest in the US and home to the largest nuclear shipbuilding and repair operations in the US

WHAT Total immersion into the world of Maritime and Transportation Technologies, hands-on learning

WHO Select Educators, college faculty career coaches and Industry Stakeholders

WHY To gain knowledge and first hand experience and create hands-on of the Maritime and Transportation Technologies activities and lessons. Become a leader in STEM education for SMART & NSF. Selected teachers experience paid externship.

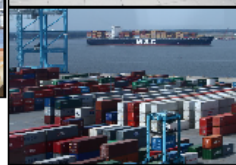
Most meals and stipend will be provided to all selected teachers.

Class limit—24

Application Deadline -
March 30, 2012

To Register:
Barbara Murray
Director and PI, SMART Center
NSF ATE Center based at
Tidewater Community College
1800 College Crescent, H-143
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A week long total
immersion in
Maritime and
Transportation



Team up with other Premier Educators, Faculty and Career Coaches. Become a SMART Center leader and learn about maritime career pathways and careers while developing take-home curricula.

Experience

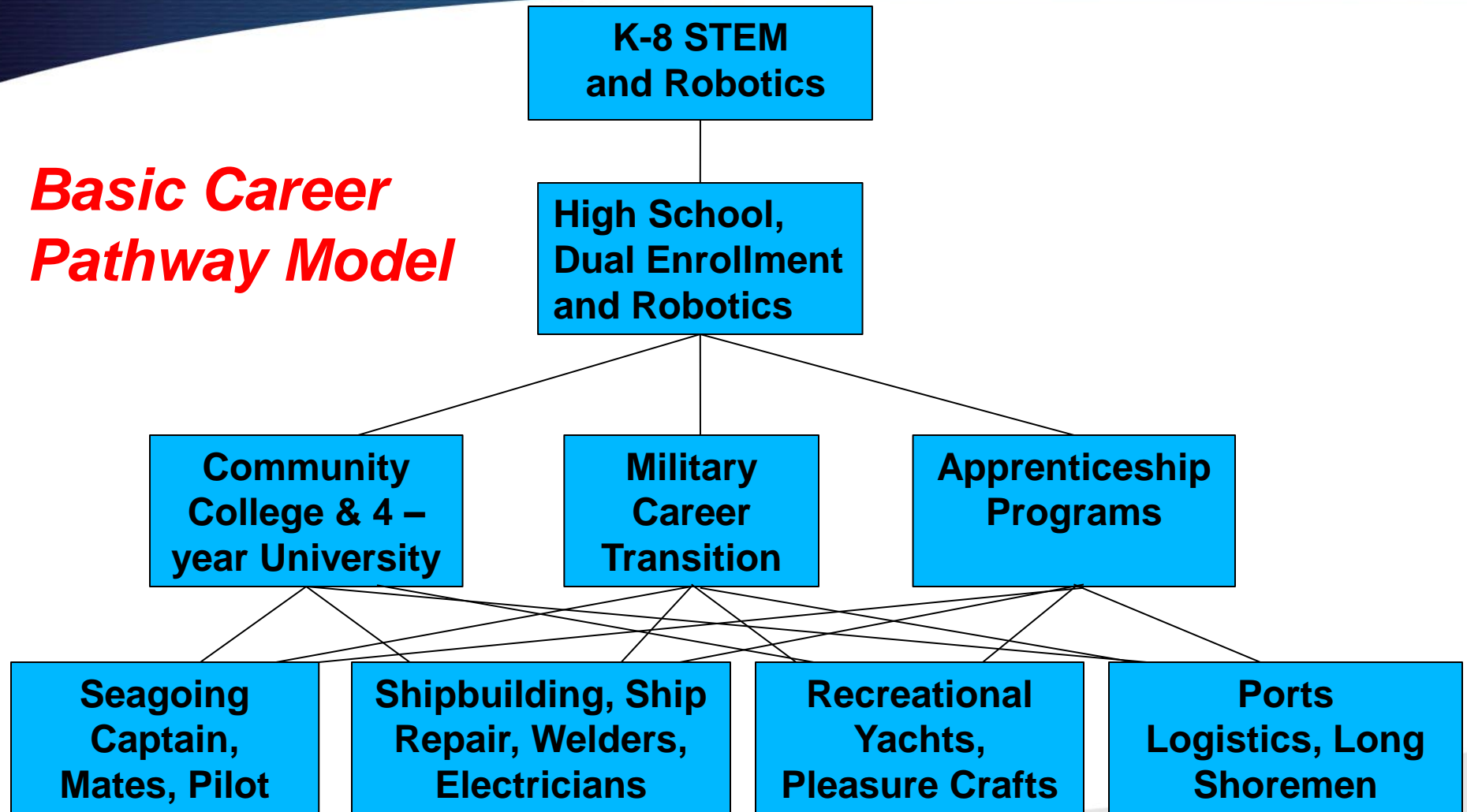
- Gain hands-on experiences in the Maritime and Transportation industries and have front-line exposure to industry leaders
- Learn first hand about maritime STEM career opportunities, career pathways, maritime courses and relevant curricula
- Be the first to know about emerging technologies to include off-shore wind energy, marine energy, marine composites and more
- Begin a team project developing activities to enhance STEM maritime project based learning
- Learn and build your own Sea Perch—the hands-on SNAME Award winning program
- Be a part of National Office of Naval Research ROBO Boat competition
- Tour area shipyards to learn more about required skills for maritime and transportation careers and learn how to incorporate activities in your classroom activities
- Spend a day with the Virginia Port Authority, touring the regional ports
- Build synergy among teachers and industry from all sectors of Maritime and Transportation



SMART

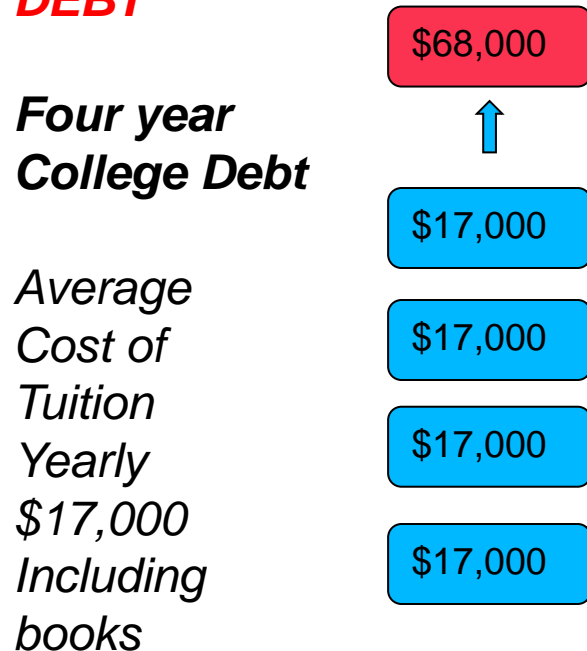
Maritime Teacher Institutes

Basic Career Pathway Model

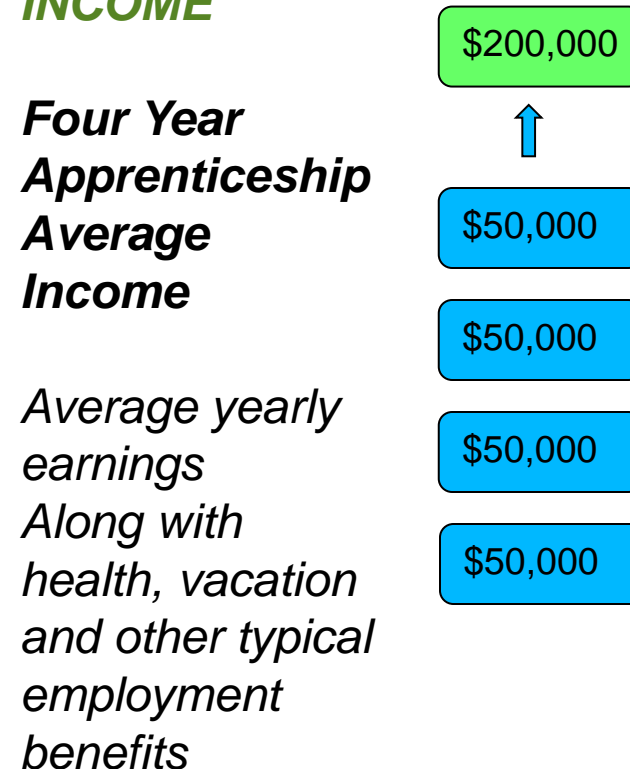


4-Year Tuition Costs VS Apprenticeship Program Income

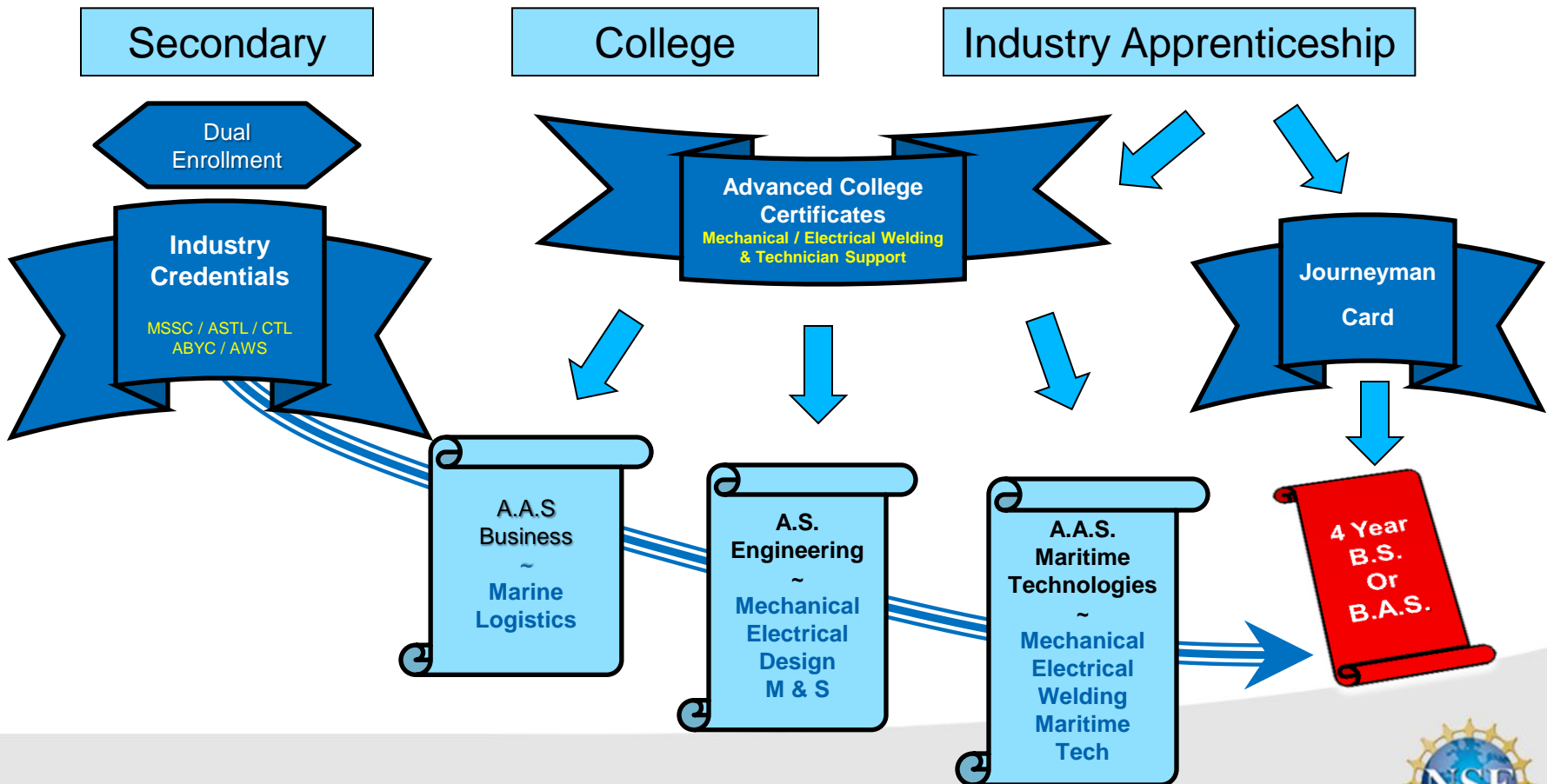
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INCOME



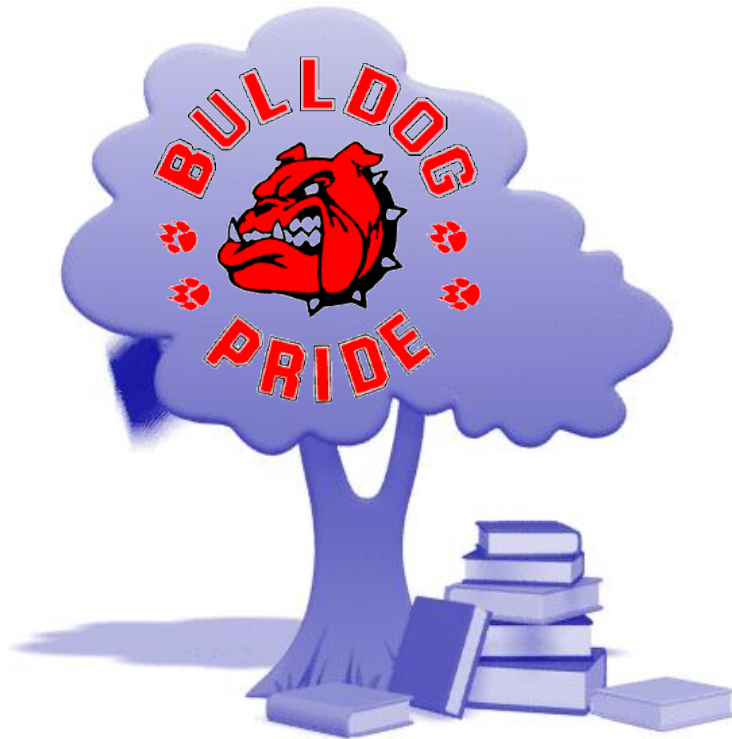
Maritime Technologies Career Pathways



South Broward High School Global Logistics Academy Contents

- * 2012/2013 Proposed Activities Timeline
- * Current Advisory Board Members & Future Members
- * Student Demographics
- * Current Student Activities and Work Samples
- * Sample Student Logo Designs
- * Goals & Action Plan





Goals & Action Plan

- Increase Advisory Board Membership
- Recruitment and Retention of Students in Program & Program Completers
- Scholarship Program & Grant Writing
- Community & Business Involvement
- Publicity & Marketing
- Teacher Recruitment

What SMART Center Does for Teachers

- Provide great opportunities for contacts in industry for both class visits and job information
- Exposure to the inside of actual shipyards, ports, and etc.
- Opens up more information about what is available both in general, and in specific places

What SMART Center Does for Teachers

- Provides contacts with professionals who can tell you exactly what they wished they would have learned in preparation for their job
- The robotics competition SMART is developing can be used with students to promote STEM concepts as well as knowledge of maritime industries

What SMART Center Does for Teachers

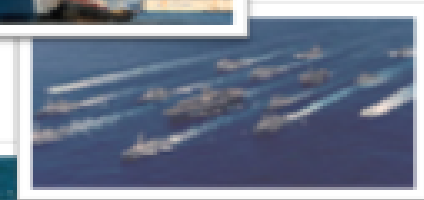
- Provide information about jobs, career direction, and educational opportunities
- Provide connections with professionals in the industry
- Expose them to careers and information they may not otherwise receive



Newport News Shipbuilding



- 125 year history designing, building, overhauling and repairing ships for the Navy, the Coast Guard and commercial trade
- Sole supplier of U.S. Navy aircraft carriers, the world's largest and most complex warships
- One of only two builders constructing the *Virginia*-class nuclear submarines
- Largest industrial employer in Virginia—more than 20,000 employees
- Over 500 Master Shipbuilders (40 years or more service)
- Many careers in shipbuilding industry





How does SMART benefit the Industry?



- Gaining school system contacts throughout the area
- Sharing the many career paths with teachers and administrators
- Dispelling inaccurate perceptions of the Maritime Industry – shipbuilding careers
- Identifying students that are “ready to enter the workforce”
- Understanding the need – helping support our educators in promoting STEM careers

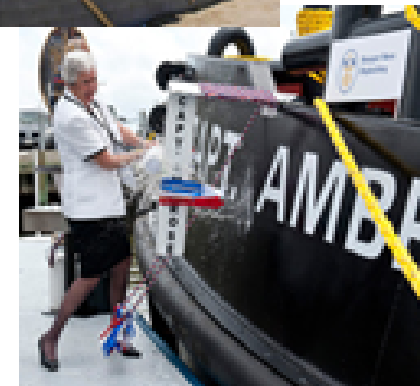
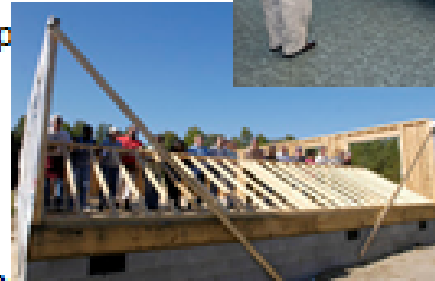




Educating Educators on Our workforce



- The workforce is aging
 - National demographic / local impact
 - Retiring workers will leave significant gaps in knowledge, skills, and experienced craftsmanship
- Workforce training is costly
 - >\$8000 / employee in the first year alone
- Most workers we hire need additional training
 - Workforce ready ≠ Shipbuilder ready
 - Craft work requires high level skill sets
 - Technology is constantly evolving
- Newport News Shipbuilding will hire over 4,000 new employees in the next three years



Partnering to Create Our Future Workforce!

The SMART Maritime Teacher Institute experience as commented by attendees:

- Provided an abundance of information
- Overall Wow!!! Many, many experiences have opened my eyes to the industry
- I understand that there are a lot of avenues that can be taken but what about the ones not talked about
- Far exceeded my expectations
- Terrific - I came in knowing nothing about
- I have made good networking contacts
- I am more aware of the maritime industry
- Introduced extremely professional industry members



