COLLEGE OF ENGINEERING
DEPARTMENT OF MARINE AND ENVIRONMENTAL SYSTEMS

OVERVIEW STATEMENT
Earth’s water—in the air, on or under the land, and in the sea—is the unifying theme of the Department of Marine and Environmental Systems (DMES). Using a systems approach, DMES offers B.S., M.S., and Ph.D. degrees in science, engineering and management. Graduate programs emphasize research on vital contemporary issues in the environment by an interdisciplinary faculty, all with doctoral degrees in their respective area of expertise.

ACADEMIC PROGRAMS
Coastal Zone Management  
B.S., M.S.
Earth Remote Sensing  
M.S.
Environmental Resource Management  
M.S.
Environmental Science  
B.S., M.S., Ph.D.
Meteorology  
B.S., M.S.
Ocean Engineering  
B.S., M.S., Ph.D.
Ocean Engineering Management  
M.S.
Oceanography  
B.S., M.S., Ph.D.

COLLEGE OF ENGINEERING SIGNATURE RESEARCH AREAS:  
Sustainability of the Environment • Intelligent Systems • Assured Information and Cyber Security  
New Space Systems and Commercialization of Space • Communication Systems and Signal Processing • Biomedical Systems
RESEARCH

• The National Park Service has provided Dr. Tom Belanger funding to develop a coupled hydrodynamic/water quality model for the Mosquito Lagoon, for use as a management tool by NPS Canaveral National Seashore personnel.

• Dr. Charles Bostater's area of research is multiplatform hyperspectral sensing systems.

• Research interests of Dr. Steven Jachec include developing and applying numerical simulations to solve fluid flow problems in the coastal ocean.

• Dr. Kevin B. Johnson studies marine larval ecology, mortality and recruitment, especially as they relate to issues of invasive species.

• An Improved Data Reduction Tool in Support of the Real-Time Assimilation of NASA Data Streams is one research focus of Dr. Steven Lazarus.

• Dr. George Maul's work involves developing a coastal ocean observing system, and Atlantic tsunami hazard mitigation.

• Our resident naval architect, Dr. Prasanta Sahoo, studies the hydrodynamics of high-speed craft and multi-hulled surface vessels.

• The testing and development of environmentally acceptable methods for biofouling control is the principle focus of Dr. Geoffrey Swain.

• Dr. John Trefry's research programs were developed to monitor offshore oil and gas development and production activities in the coastal Beaufort Sea in the Alaskan Arctic; the research focuses on both short-term and long-term, cumulative impacts.

• Dr. Robert Weaver is working on numerical simulations of natural hazards to coastal engineering structures and coastlines.

• Dr. John Windsor is studying toxic substances in sediments and clams from the Indian River Lagoon, Florida.

• Development of a new type of surface (autonomous and mobile) vehicle/buoy for Indian River Lagoon studies for physical oceanography, environmental impact assessment, and integrated marine environment management is one of Dr. Stephen Wood's research projects.

• Dr. Gary Zarillo's projects include case studies at federally maintained inlets as well as the production of remote sensing and modeling tools that can be applied to all tidal inlets and navigational channels.

In addition, many students find research opportunities with their faculty during the academic year, and ALL undergraduate students spend the summer between their junior and senior year in Marine and Environmental Field Projects (MFP). MFP is a capstone experience and is a practicum in science and engineering with a perspective to the managerial consequences of knowledge-based decision-making. The MFP experience sets DMES students apart from the pack!