



**Miami Beach Senior High School
Academy of Marine and Environmental Science**

What is **AMES**? The Academy of Marine and Environmental Science (AMES) is an outstanding new program for Miami Beach High School students in grades 10-12 who want to enhance their high school career with a challenging and meaningful “real world” experience. The Academy features a dynamic cluster of elective and core academic courses that focus on one of today’s most important fields of inquiry, research, and application.

The academy works with local businesses to provide student internships, job shadowing opportunities, field trips, research experiences, and a number of other supports to the program. Some of our current support groups include the Environmental Coalition of Miami and the Beaches (ECOMB), Celebration of the Sea Foundation, Tarpoon Dive Center, The Big Blue and You Foundation, and the U.S. Coast Guard Auxiliary. All of our academy programs are generously supported by donations from the Shepard Broad Foundation.

Join AMES and you will have the opportunity to participate in unique experiences such as:

- Preparation for college and careers
- Interesting courses and teachers
- Hands-on projects that matter
- Field trips and outdoor experiences
- Research and data collection
- Public awareness campaigns and video production
- Big Blue and You “One Water” workshop
- Pollution monitoring and clean-up
- Work with threatened or endangered species
- Diving and boating safety instruction
- Guest speakers
- SCUBA club
- World Ocean Watch
- Sea Turtle Program
- Forest Watch Program
- Clean Beaches Campaign
- Reef Restoration
- WeatherBug Activities
- Beach High Environmental Center and greenhouse
- National Ocean Sciences Bowl (NOSB) Team Competition



AMES students can also participate in internships with local businesses, government agencies, and other area educational or research institutes in the field of marine or environmental science. Many of these internships are paid positions, and in some cases, the jobs can continue through the school year on a part-time basis. In addition to gaining valuable real-world experience, internships can serve as a key element of a solid college application.

Program of Study

Grade	Required Courses	Student Projects	Certifications
9th	<i>Ecology (future offering)</i>	<i>Forest Watch Program World Ocean Watch Program Environmental History of South Florida Greenhouse, Gardening, and Restoration Projects NASA LandSat Imaging SCUBA</i>	<i>Open Water SCUBA Certification (1 college credit)</i>
10th	<i>Marine Science I</i>	<i>Miami Beach Turtle Tracking Summer/Fall WeatherBug Projects Seagrass Project</i>	<i>Advanced Diver Certification (1 college credit)</i>
11th	<i>Marine Science II</i>	<i>One Water Workshop</i>	<i>Rescue Diver Boaters Safety Course USCG</i>
12th	<i>Advanced Placement Environmental Science or Environmental Science</i>	<i>Career Internships Internal/External</i>	<i>Dive Master (2 College Credits)</i>

All AMES students will participate in required workshops, field trips, and instructional programs throughout the course of their high school career. SCUBA diving participation and certification is voluntary and based on available positions and eligibility requirements.

Typical Student Schedule

Grade	Regular	Honors/ IB/ Scholars
9th	<i>Ecology (AMES)</i> <i>Earth Science</i> <i>Algebra 1 or Geometry</i> <i>World History</i> <i>English 1</i> <i>Arts or Foreign Language Elective</i> <i>Personal Fitness/Physical Education</i> <i>Elective</i>	<i>Ecology (AMES)</i> <i>Biology or Chemistry Honors</i> <i>Geometry or Algebra 2 Honors</i> <i>AP World History</i> <i>English Honors</i> <i>Foreign Language Honors</i> <i>Personal Fitness/Physical Education</i> <i>Arts or Elective</i>
10th	<i>Marine Science 1 Honors (AMES)</i> <i>Biology</i> <i>Geometry or Algebra 2</i> <i>English 2</i> <i>Arts or Foreign Language Elective</i> <i>Electives</i>	<i>Marine Science 1 Honors (AMES)</i> <i>Chemistry or Physics Honors</i> <i>Algebra 2 or Pre-Calculus Honors</i> <i>English 2 Honors</i> <i>Arts or Foreign Language Elective</i> <i>AP European History</i> <i>AP Biology or Chemistry</i> <i>Dual Enrollment Class or Electives</i>
11th	<i>Marine Science 2 Honors (AMES)</i> <i>Chemistry or Physical Science</i> <i>Algebra 2 or Integrated Math</i> <i>English 3</i> <i>American History</i> <i>Art or Foreign Language Elective</i> <i>Electives</i>	<i>Marine Science 2 Honors (AMES)</i> <i>Physics Honors or AP/IB Science</i> <i>Calculus or Statistics Honors or</i> <i>AP/IB Math</i> <i>English 3 Honors</i> <i>Anatomy and Physiology Honors</i> <i>AP US History or IB History of the</i> <i>Americas</i> <i>Dual Enrollment Class or Electives</i>
12th	<i>Environmental Science (AMES)</i> <i>Liberal Arts Math</i> <i>English 4</i> <i>Government and Economics</i> <i>Internship (AMES)</i> <i>Electives</i>	<i>AP Environmental Science (AMES)</i> <i>English 4 Honors</i> <i>AP Government and Economics or IB</i> <i>History of the Americas</i> <i>AP/IB Science</i> <i>AP/IB Math</i>

AMES Advisory Board Members:

- Dr. Rosann Sidener, Principal
- Mr. David Guthrie, AMES Lead Teacher, Science Department Chair
- Mr. Patxi Pastor, Celebration of the Sea Foundation
- Mr. Jake Shekels, Tarpoon Lagoon, Master Diver/Instructor
- Mr. Morris Broad, Shepard Broad Foundation, Beach High Alumnus
- Dr. Jayne Greenberg, Director Physical Education, MDCPS
- Mr. Luiz Rodrigues, ECOMB
- Ms. Danielle Washington, The Big Blue and You Foundation
- Mrs. Luisa Diaz, AMES Teacher
- Mr. Paul Rehage, AMES Teacher, SCUBA Club Sponsor
- Mr. Ron Hunter, Naval Science Teacher, JROTC
- Mrs. Jodi Robins, AMES Assistant Principal
- Mr. Miguel Flores, Assistant Principal
- Mrs. Charmaine Williams, AMES Counselor
- Parent Representatives _____

AMES Officers and Board:

- President _____
- Vice-President, Activities _____
- Vice-President, Advocacy _____
- Secretary _____
- Business Manager _____
- Assistant Business Manager _____
- Historian _____
- Web Designer _____
- Newsletter Journalist _____



Application Form (please print) Return to Mr. Guthrie in Room 3753

Academy of Marine and Environmental Science

Name _____ ID # _____

Address _____

Phone _____ Grade _____ Current Science Class _____

Parent/Guardian Name _____

Write a brief statement that summarizes your reasons for selecting AMES as the Academy you wish to enter:

Check and describe any of the following experiences or activities you enjoy and have participated in:

- Hiking, camping, outdoor recreation _____
- Swimming, snorkeling, diving _____
- Boating _____
- Environmental protection _____
- Fishing _____
- Vacation or visit to zoos or parks _____
- Work with animals or plants _____

Check any of the following that apply:

- I am a certified diver Describe _____
- I have my own diving equipment
- I am interested in receiving diving certification and would join SCUBA Club

Describe your interests in pursuing science in college or as a career _____

By signing below, you indicate that you are willing to take the required academy classes in the proper sequence and participate in academy programs where appropriate.

- Ecology (9th)
- Marine Science 1 (10th) Marine Science 2 (11th)
- Environmental Science or AP Environmental Science (11th or 12th)
- Internship (12th)

Student Signature _____ Parent/Guardian Signature _____

Science Teacher Recommendation _____

Academy Lead Teacher Signature _____

SCUBA Component

Marine Scientists use SCUBA to explore the relatively shallow regions of the oceans. As students in the Academy of Marine and Environmental Sciences, you will have the opportunity to earn your SCUBA certification, college credit, and enrich your life through participation in recreational and scientific diving.

How does it work?

Our Academy has partnered with the owners and instructors of **Tarpoon Lagoon Dive Center**. The Dive Center's instructors provide our students with thorough instruction, diving equipment, and coordinate all dives.

All students interested in diving or snorkeling fieldtrips must pass a swim test.

All certification classes are conducted by Tarpoon Lagoon's Certified Dive Instructors at MBSH

Students complete 3-4 classroom sessions and must pass a test to demonstrate their understanding of dive theory.

All students must perform dive skills during pool sessions at Monty's pool adjacent to the Dive Center.

All students must perform 4 open water dives (typically 2 shallow water dives in Key Largo and two deep water dives off of Miami Beach).

Small class size (max 10 students per class with one class each academic quarter).

How are student selected?

Students must be in the ***Academy of Marine and Environmental Sciences (AMES)***.

Each quarter a cohort of ten **AMES** students will be selected to participate in open water diving certification.

Students must complete an application and meet and accept specified conditions outlined on the SCUBA application.

Students must demonstrate excellent listening skills and potential as a contributing team member.

- Students' academics and behavior in class will influence selection.

What are the associated costs?

- SCUBA certification is \$290
- Subsidizing and scholarships are available (see application)



SCUBA Application (please print) Return to Mr. Rehage RM 376

Academy of Marine and Environmental Science

Name _____ ID # _____

Address _____

Home Phone _____ Grade ____ Current Science Class _____

Parent/Guardian Name _____

Your email address _____ Your cell phone _____

Why do you want to become a SCUBA diver?

Describe any of the following water related activities you enjoy and have participated in:

- Swimming, snorkeling, diving, surfing _____
- Boating _____
- Environmental protection _____
- Fishing _____

Describe the type(s) of diving activities that interest you (recreational, reef restoration, reef/seagrass monitoring).

___ I can afford SCUBA certification on my own

___ I would need financial assistance to receive SCUBA certification

Student Signature _____ Date _____ Parent/Guardian Signature _____ Date _____

Science Teacher Recommendation _____

SCUBA sponsor Signature _____

