

MAST Academy Academic Program

TOTAL PROGRAM FEATURES

- ⚓ Research-based, best practices across the curriculum
- ⚓ Individualized attention and opportunities to collaborate with peers and teachers
- ⚓ Enrichment opportunities such as local and national internships, international field study, and service-learning opportunities
- ⚓ Access to a comprehensive Marine Skills program including SCUBA, lifeguard, WSI and CPR certification
- ⚓ Flexibility to pursue areas of interest and strength
- ⚓ Rigorous college preparatory and college level courses for all
- ⚓ Required laboratory science classes and an extensive selection of elective STEM courses
- ⚓ Scholarship opportunities, including FL Bright Futures
- ⚓ Ability to earn college credit through AP, AICE, and Dual Enrollment courses
- ⚓ Ability to compete for admissions to the most elite colleges and universities
- ⚓ Ability to pursue a Cambridge AICE or AP International Diploma

ADVANCED CURRICULUM OPPORTUNITIES AT MAST

Advanced Placement (AP), Cambridge (AICE) and dual enrollment courses at MAST emphasize and require higher order thinking, strong communication skills in both oral and written presentations, problem solving skills, teamwork, and strong investigative/research skills. Highly motivated students who excel academically and are well-rounded in their extracurricular activities will be provided the opportunity to enroll in these courses. All students at MAST are involved in an advanced program of study and are encouraged to develop a strong commitment to social change and civic responsibility. Students emerge as young leaders sensitive to and knowledgeable about the global community.

Students taking a range of advanced academic courses have opportunities to earn an accelerated diploma, receive college credits, and compete for scholarships and admission to the most prestigious colleges worldwide.

MAST ACADEMY LEARNING OUTCOMES

Students will be able to:

- ⚓ develop oral, practical, and cognitive skills necessary for evaluating arguments and acquire knowledge.
- ⚓ think critically, solve problems, interact with colleagues, use technology, and read and write proficiently
- ⚓ create real world solutions, using knowledge, critical thinking, and modern technology.
- ⚓ take an investigative approach to learning and use creativity in solving problems.
- ⚓ initiate and undertake individual projects and work as part of a team.
- ⚓ design and implement service-learning projects to work towards solving local, national, or global issues
- ⚓ promote understanding and acceptance in an ever-changing global society.
- ⚓ meet or exceed college-entrance level expectations via AICE, Advanced Placement, and dual enrollment programs.
- ⚓ become eligible for Bright Futures through demonstrated academic merit via test scores and academic performance or the earning of a Cambridge AICE Diploma.
- ⚓ articulate their love for learning and how the skills learned will be used to pursue a lifetime of learning.

MAST Academy Magnet Strands

MARITIME AND SCIENCE TECHNOLOGY PROGRAM

The Maritime and Science Technology Program at MAST Academy brings together a diverse group of students from all over Miami-Dade County. Its primary focus is the interdisciplinary study of the maritime environment. As part of this rich college preparatory program Students complete advanced studies including college level coursework in the Sciences and Humanities starting as early as Freshman year. All students will complete an internship experience as part of their program which will be the culmination of their program of study, exposing them to possible careers that they can pursue after graduation.

Minimum Program Requirements

- ⚓ 4 Years of Math @ MAST Academy to include Geometry, Algebra II, and Pre-Calculus.
- ⚓ 5 Years of Science @ MAST Academy to include Biology, Chemistry, AS Marine Science, and 1 additional college level science course.
- ⚓ 4 Years of English @ MAST Academy to include a minimum of one college level English course.
- ⚓ 3 Years of History @ MAST Academy to include World History, US History, and Government/Economics
- ⚓ 2 Years of a consecutive foreign language.
- ⚓ 1 Year of a course meeting the fine art/practical art requirement.
- ⚓ .5 Year of a course meeting the Personal Financial Literacy requirement (if entering 9th grade in 2023-2024 or after).
- ⚓ 4 Maritime Program Courses to include Swimming 1, AS Maritime History, AS Marine Science, and Literature.
- ⚓ Executive Internship to be completed either during the summer or during senior year at the end of the school day. Opportunities may exist for a Dual Enrollment Internship which meets this requirement through the District CTE office.

Sample Schedule

	Science	Math	English	History	Magnet Course	Elective	Elective
9th	H Biology	H Geometry	English 1 H	H World History	Personal Fitness/ Swimming	Engineering 1	Coast Guard JLP 1
10th	H Chemistry	H Algebra 2	AP English Lang	AP European History	Maritime Humanities (AS Gen Paper)	French 1	Coast Guard JLP 2
11th	H Physics	AP Pre-Calculus	AP English Lit	AP US History	AS Marine Science	French 2	Coast Guard JLP 3
12th	AP Physics C Mechanics	AP Calculus	DE Lit 1000 & ENG 2012	AP Gov/H Econ	Coast Guard JLP 4	French 3	Internship

CAMBRIDGE SCIENCE, TECHNOLOGY, ENGINEERING, & MATH (STEM) PROGRAM

The Cambridge STEM Program at MAST Academy prepares students for international studies in the Science, Technology, Engineering, and Math fields. Students in this program will master a broad range of skills and develop the in-depth understanding of a variety of subjects required to earn the internationally recognized Cambridge Advanced International Certificate of Education (AICE) Diploma. Students take advantage of the range of science and technology offerings at MAST Academy to complete introductory college level coursework in the sciences and participate in STEM competitions. Students are expected to take multiple science classes a year as part of this program.

Minimum Program Requirements

- ⚓ 4 Years of Math @ MAST Academy to include Geometry, Algebra II, and Pre-Calculus.
- ⚓ 5 Years of Science @ MAST Academy to include Biology, Chemistry, AS Environmental Management, (AS Biology, AS Chemistry, or Honors Physics) and (A Biology, A Chemistry, or AP Physics C Mechanics).
- ⚓ 4 Years of English @ MAST Academy to include a minimum of one college level English course.
- ⚓ 3 Years of History @ MAST Academy to include World History, AS United States History, and Government/Economics.
- ⚓ 2 Years of a consecutive foreign language.
- ⚓ 1 Year of a course meeting the fine art/practical art requirement.
- ⚓ .5 Year of a course meeting the Personal Financial Literacy requirement (if entering 9th grade in 2023-2024 or after).
- ⚓ 4 Cambridge-STEM Program Courses to include Swimming 1, AS Environmental Management, AS Global Perspectives and A Global Perspectives (Science Research).
- ⚓ Participation in a minimum of one approved STEM competition while a student at MAST Academy or participate in the Experimental Science class. The approved list includes but is not limited to Vex Robotics Competitions, Fairchild Challenge, SECME Olympiad, Mu Alpha Theta or District Science Fair.

Sample Schedule

	Science	Math	English	History	Magnet Course	Elective	Elective
9 th	H Biology	H Geometry	Pre-AICE English Language	H World History	Personal Fitness/ Swimming	Engineering 1	French 1
10 th	H Chemistry	H Algebra 2	AS English Language	AP European History	AS Environmental Management	Engineering 2	French 2
11 th	AS Chemistry	AP Pre-Calculus	AS English Literature	AS US History	AS Global Perspectives	Engineering 3	Honors Physics
12 th	A Chemistry	AP Calculus	A English Literature	AP Gov/H Econ	A Global Perspectives (STEM Research)	Advanced Applications	Physics C Mechanics

CAMBRIDGE GLOBAL STUDIES PROGRAM

The Cambridge Global Studies Program at MAST Academy prepares students for college level study in the United States or internationally. Students in this program will master a broad range of skills and develop a in-depth understanding of a variety of subjects required to earn the internationally recognized Cambridge Advanced International Certificate of Education (AICE) Diploma. Students complete coursework that broadens their perspective and provides a global lens through which to address the economic and social challenges facing our world. In recognition of the importance of fluency in multiple languages to the global workforce, all students in this program will be required to complete the foreign language component of the Florida Bi-Literacy Seal through examination or coursework while at MAST Academy.

Minimum Program Requirements

- ⚓ 4 Years of Math @ MAST Academy to include Geometry, Algebra II, and Pre-Calculus.
- ⚓ 4 Years of Science @ MAST Academy to include Biology, Chemistry, and AS Environmental Management
- ⚓ 4 Years of English @ MAST Academy to include a minimum of one college level English course.
- ⚓ 4 Years of History @ MAST Academy to include World History, AS United States History, and Government/Economics.
- ⚓ 1 Year of a course meeting the fine art/practical art requirement.
- ⚓⚓ .5 Year of a course meeting the Personal Financial Literacy requirement (if entering 9th grade in 2023-2024 or after).
- ⚓ 4 Years of a world language while at MAST or the completion of a college level world language course.
- ⚓ 4 Cambridge-Global Studies Program Courses to include Swimming 1, AS International History or AP European History, AS Global Perspectives and A Global Perspectives (Social Focus).

Sample Schedule

	Science	Math	English	History	Magnet Course	Elective	Elective
9 th	H Biology	H Geometry	Pre-AICE English Language	AP Human Geography	Personal Fitness/ Swimming	French 1	Art History 1
10 th	H Chemistry	H Algebra 2	AS English Language	AP World History	AP European History	French 2	Newspaper 1
11 th	AS Environmental Management	Pre-Calculus	AS English Literature	AS US History	AS Global Perspectives	French 3	Newspaper 2
12 th	AS Marine Science	Calculus Honors	A English Literature	AP Gov/H Econ	A Global Perspectives (Social Focus)	AS French	Newspaper 3