

Academy of Engineering

Career Pathway: Science, Technology, Engineering & Mathematics

Program Strand: Pathways to Engineering

Students who choose a career in Engineering have diversified engineering skills in order to work on a variety of projects. Many employees may specialize with a specific area of engineering such as: electrical, computer, manufacturing, civil, environmental, mechanical, or architectural.

Secondary Career Academy Development Timetable Academy classes are listed in bold type.

Pre-Academy Grades 6 – 8	Grade 9	Grade 10	Grade 11	Grade 12
6 th grade—Middle Moves 7 th grade—Career Preparation Requirement 8 th grade—Transition Tools MJ Wheel 8600020015 Introduction to Technology 860001001 Exploring Technology 860002012 Exploration of Production Technology 860005001 Exploration of Aerospace Technology 860005001 Exploration of Transportation Technology 860024002 Exploration of Power & Energy Technology 860025002	English I	English II	English III	English IV
	Algebra or higher	Geometry or higher	Algebra II or higher	Pre-calculus or Other Mathematics Course
	Earth & Space Science or Biology	Biology or Chemistry	Chemistry or Physics or Physical Science	Science Elective or Other Elective
	World History	Elective	American History	American Government / Economics
	9 th Grade Transition	Foreign Language or Other Elective	Foreign Language or Other Elective	Foreign Language or Other Elective
	<i>Introduction to Engineering Design 860055001</i>	<i>Principals of Engineering 860052001</i>	<i>Digital Electronics 860053001</i>	<i>Engineering Design & Development 860065001</i>
	Elective <i>* Aerospace Engineering 860062001</i>	Elective <i>* Biotechnical Engineering 860063001</i>	Elective <i>* Computer Integrated Manufacturing 860056001</i>	Elective <i>* Civil Engineering & Architecture 860059001</i>
Elective	Elective	Elective	Elective	

Suggested Electives:

- Students may in their Junior or Senior year opt to participate in the Career Experience Opportunity (CEO) internship program using the following course numbers: Workplace Essentials – 83003101A (Honors .5) and CEO internship – 0500330CE (Honors .5).
- Students may complete more than one program within the Academy of Engineering providing courses are offered at the school site.
- * In addition, students can choose to enroll in * Aerospace Engineering, * Biotechnical Engineering, * Computer Integrated Manufacturing or * Civil Engineering & Architecture, if school offers these specialized Project Lead the Way (PLTW) classes.

To find a Miami-Dade County Public High School with this Program Strand, please link to http://ssr.dadeschools.net/acad_tally_schls.pdf

Internship Opportunities	Student Organizations / Clubs	Earn Upon Completion
<ul style="list-style-type: none"> • Internship • Cooperative Education • Job Shadowing • School-Based Enterprise • Service Learning • Dual Enrollment • Portal to CEO 	<ul style="list-style-type: none"> • Junior Engineering and Technical Society • SECME • Technology Student Association (TSA) • U.S. FIRST Robotics League 	<ul style="list-style-type: none"> • Industry Title & FLDOE OCP's correlated to the individual areas. • For more information on the Florida Department of Education Bright Futures Scholarship Programs: Florida Academic Scholars Award (FAS), Florida Medallion Scholars Award (FMS), and Florida Gold Seal Vocational Scholars Award (GSV) please contact a guidance counselor or visit: http://www.floridastudentfinancialaid.org/ssfad/factsheets/BF.htm. • For more information on advanced standing at local public and private post secondary institutions as established per articulation agreements please contact a guidance counselor.

POSTSECONDARY OPTIONS

Certification Programs	Community College (A.A./A.S.) or Proprietary Programs	Four-Year College and University Programs
<ul style="list-style-type: none"> • Engineering Technology • Associate Engineering Technologist • Certified Engineering Technician - Fire Alarm Systems • Miami Dade College School of Computers and Engineering 	<ul style="list-style-type: none"> • Manufacturing Engineering Technology • Engineering Technology • Drafting • Pre-engineering • Miami Dade College School of Computers and Engineering 	<ul style="list-style-type: none"> • Civil Engineering • Electrical Engineering Technology • Biomedical Engineering • Robotics & Mechatronics Technology • Environmental Engineering • Florida International University College of Engineering and Computing • Univ. of South Florida College of Engineering • Univ. of Central Florida Mechanical, Materials and Aerospace Engineering Dept. • Florida A & M University and Florida State University College of Engineering • Univ. of Florida College of Engineering

CAREER OPTIONS

Entry Level	After Post-Secondary Education
<ul style="list-style-type: none"> • Engineering Assistant • Telecommunications Technician • Computer Network Systems Assistant • Digital Equipment Technician • Computerized Programmable Controller • Audio Technician 	<ul style="list-style-type: none"> • Civil Engineer • Architectural Engineer • Engineering and Science Manager • Network Systems Analyst • Industrial Engineer • Science Technician • Geoscientist • Physicist