

# ENGINEERING PATHWAYS

(PROGRAM #9400300)

The Engineering Pathways program empowers students to step into the role of an engineer, a problem-solving mindset, and solve real-world challenges. Students dig deep into the engineering design process, applying math, science, and engineering standards to hands on projects. Students are learning transferrable skills that can be applied to the manufacturing, civil, aerospace, electronics, and mechanical sectors.

Students in this pathway will participate in the following Career Technical Student Organization(s) (CTSO).  
SkillsUSA, TSA

INDUSTRY, MANUFACTURING, CONSTRUCTION & TRANSPORTATION (IMCT)

## PROFESSIONAL CAREER CERTIFICATIONS\*

Industry Certification Title	CAPE college credits	Graduation online course requirement	Math/Sci Waiver (non-EOC)
Microsoft Office Specialist	N/A	YES	NO
Autodesk certified user: AutoCAD	3 credits	YES	YES
Autodesk certified user: Inventor	3 credits	YES	YES
Autodesk certified user: REVIT Architecture	3 credits	YES	YES
Certified SolidWorks Associate (CSWA)	3 credits	YES	YES
MasterCAM certified Programmer Mill lv1	N/A	YES	NO
MasterCAM associate, Mill design & toolpaths	N/A	YES	NO
RECF Robotics certification	N/A	YES	NO
RECF Pre-engineering certification	N/A	YES	NO
Small UAS safety certification (drones)	N/A	YES	NO
Engineering CORE certification (PLTW only)	N/A	YES	NO

## POST SECONDARY OPTIONS

Options	Pathway	Career**	Avg. Salary**
COLLEGE / UNIVERSITY ENROLLMENT	Engineering BS (multiple fields) Engineering Technology AS	Industrial Engineer Computer Engineer Mechanical Engineer Electrical Engineer Engineering technician	\$70,326 \$96,831 \$81,336 \$81,435 \$20.26 / hr
REGISTERED APPRENTICESHIP	N/A	N/A	N/A
WORKFORCE	Manufacturing Industry Construction Industry	Draftsman Surveyor Electronics assembler Electronics equipment repair	\$20.70 / hr \$15.38 / hr \$11.97 / hr \$16.92 / hr

## COLLEGE SCHOLARSHIPS

<p><b>Florida Gold Seal Vocational Scholars (GSV)</b></p> <p>Funds 2-year programs: Technical College certificate Or State College degree</p>	<p>The Florida Gold Seal Vocational Scholars (GSV) can be used to fund a career education or certificate program at a Technical or State College.</p> <p>To earn this scholarship students must:</p> <ul style="list-style-type: none"> <li>Complete 3 credits within a single pathway</li> <li>3.0 weighted core GPA &amp; 3.5 unweighted GPA in the pathway courses</li> <li>Minimum college ACT, SAT, or PERT scores</li> </ul> <p>Click here to see the full eligibility requirements: <a href="http://www.floridastudentfinancialaid.org/SSFAD/PDF/BFHandbookChapter1.pdf">www.floridastudentfinancialaid.org/SSFAD/PDF/BFHandbookChapter1.pdf</a></p>
<p><b>Florida Gold Seal CAPE Scholars (GSC)</b></p>	<p>The Florida Gold Seal CAPE Scholars award (GSC) can be used to fund a career education or certificate program.</p> <p>To earn this scholarship students must:</p> <ul style="list-style-type: none"> <li>Pass Industry Certification exam(s) equaling 5 or more college credits</li> <li>Document a minimum of 30 service hours</li> </ul> <p>Click here to see the full GSC eligibility requirements: <a href="http://www.floridastudentfinancialaid.org/SSFAD/PDF/BFHandbookChapter1.pdf">www.floridastudentfinancialaid.org/SSFAD/PDF/BFHandbookChapter1.pdf</a> Click here to see Industry Certification awarded college credits: <a href="http://www.fldoe.org/academics/career-adult-edu/career-technical-edu-agreements/industry-certification.stml">http://www.fldoe.org/academics/career-adult-edu/career-technical-edu-agreements/industry-certification.stml</a></p>

## SCHOOLS OFFERING THIS PATHWAY

High Schools:	Coral Glades Coconut Creek Cooper City Coral Springs Cypress Bay Dillard 6-12 Blanche Ely Everglades Hallandale Lauderhill 6-12 McArthur	Miramar Monarch Nova Plantation South Broward South Plantation Marjory Stoneman Douglas Stranahan J.P. Taravella West Broward Western
Middle Schools:	Any school offering the <b>Intro to Engineering Design</b> high school course	

## COURSE PROGRESSION

Course	Course #	Teacher Certification
Introduction to Engineering Design*	8600550	Tech Education
Principles of Engineering*	8600520	
Computer Integrated Manufacturing*	8600560	
Digital Electronics*	8600530	*ALL courses are honors and practical arts
Civil Engineering & Architecture*	8600590	**see FLDOE frameworks for complete list
Aerospace Engineering*	8600620	
Biotechnical Engineering*	8600630	
Engineering Design & Development*	8600650	

## CAREER PATHWAY OPPORTUNITIES

CTE pathways offer students opportunities to continue their education after high school. Dual Enrollment pertains to students taking college courses while enrolled in high school. Articulation agreements allow students to earn college credit for CTE courses and industry certifications earned in high school.

<b>Workplace Experience</b>	CTE students have the opportunity to complete a pre-professional learning experience the summer after 11 <sup>th</sup> grade in their chosen field of study or career interest. <a href="http://www.browardschools.com/CTACE">www.browardschools.com/CTACE</a>
<b>Broward Technical Colleges</b>	Students who have passed courses in a high school CTE program or earned an Industry Certification can apply those credits to the aligned postsecondary program. Contact a BTC Counselor for more information or follow the link to see how you can save time and money when you attend a Broward Technical College. <a href="http://www.browardtechnicalcolleges.com/articulation-agreement">http://www.browardtechnicalcolleges.com/articulation-agreement</a>
<b>Broward College</b>	<p><b>Articulated credits</b>                      Complete Engineering Pathways Program (first 3 courses listed above)                      Engineering Technology AS (6 Credits)</p> <p><b>Career Pathway Dual Enrollment</b>                      Advanced Manufacturing Technical Certificate                      ET11701C Safety (11<sup>th</sup> Grade)                      PMT2213C – Advanced Machining 1 (12<sup>th</sup> Grade)                      PMT2214C – Advanced Machining 2 (12<sup>th</sup> Grade)</p>

\*Industry certifications offered may vary by school.

\*\*Salary data collected from Indeed.com, 04/2017

## CONTACT INFORMATION

### Broward County Public Schools: Career, Technical, Adult and Community Education

754-321-8400

[www.BrowardSchools.com](http://www.BrowardSchools.com)

[CTACE@BrowardSchools.com](mailto:CTACE@BrowardSchools.com)

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