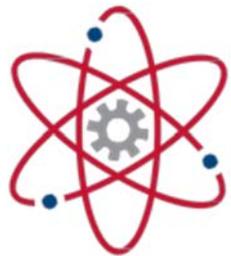


# Project Lead the Way

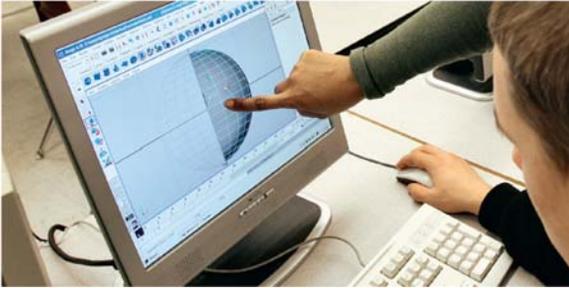
The **PLTW Pathway to Engineering (PTE)** program is a sequence of courses which follows a proven **hands-on, real-world problem-solving** approach to learning. Throughout **PTE**, students learn and apply the design process, acquire strong **teamwork** and **communication** proficiency and **develop organizational, critical thinking** and **problem solving skills**. They discover the answers to questions like how are things made and what processes go into creating products? They explore aerodynamics, astronautics and life sciences. Students apply biological and engineering concepts related to biomedicine- **think robotics**. They design, test and actually construct circuits and design devices such as smart phones and tablets. It's **STEM** education and it's at the heart of today's **high-tech high-skill global economy**. Students can enroll in both high school and middle school programs.



PROJECT LEAD THE WAY

**PLTW**

**For More Information Contact:**  
[www.collierschools.com/cte](http://www.collierschools.com/cte)  
**Career & Technical Education Programs**  
Collier County Public Schools  
5775 Osceola Trail  
Naples, FL 34109  
(239) 377-0333



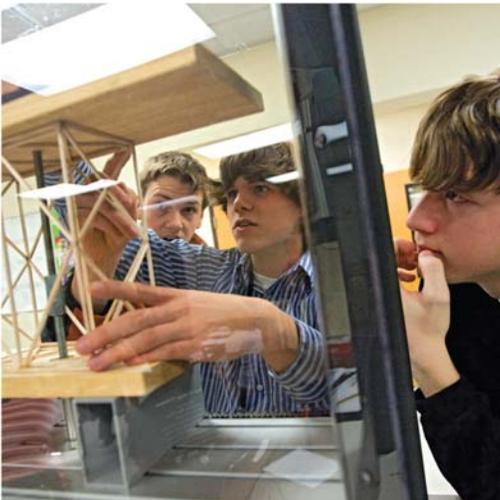
### Middle School Courses

#### **D & M** Design & Modeling

Students apply the design process to solve problems and understand the influence of creativity and innovation in their lives. Working in teams students design a playground and furniture, capturing research and ideas in their engineering notebooks and using Autodesk® design software to create a virtual image of their designs.

#### **A & R** Automation & Robotics

Using VEX Robotics students trace the history, development, and influence of automation and robotics as they learn about mechanical systems, energy transfer, machine automation, and computer control systems.



### High School Courses

#### **IED** Introduction to Engineering Design

Students use the design process and industry standard 3D modeling software to design solutions to solve proposed problems.

#### **POE** Principles of Engineering

Students are exposed to major concepts like mechanisms, energy, statics, materials and kinematics.

#### **AE** Aerospace Engineering

Students explore the evolution of flight, flight fundamentals, navigation and control, aerospace materials, propulsion, space travel, orbital mechanics, ergonomics, remotely operated systems and related careers.

#### **CIM** Computer Integrated Manufacturing

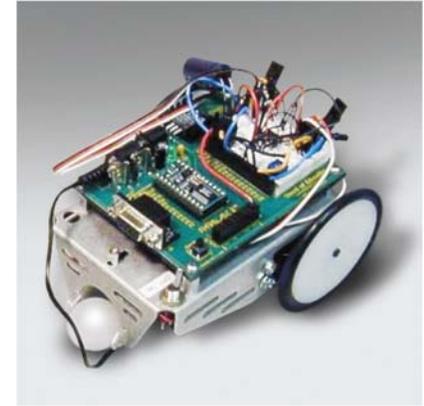
Students explore manufacturing history, individual processes, systems and careers. The course also incorporates finance, ethics and engineering design.

#### **CEA** Civil Engineering and Architecture

Students design and develop residential and commercial properties using 3D architectural design software.

#### **DE** Digital Electronics

Students are introduced to the process of combination and sequential logic design, engineering students and technical documentation. They are also exposed to programming integrated circuit kits and microcontrollers.



### Capstone Course:

#### **EDD** Engineering Design and Development

Students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process.



**PLTW: Igniting innovation through imagination and learning.**

[www.pltw.org](http://www.pltw.org)



www.collierschools.com

Dr. Kamela Patton

Superintendent of Schools

#### THE DISTRICT SCHOOL BOARD OF COLLIER COUNTY

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Kathleen Curatolo, Member  
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This report has been prepared by The District School Board of Collier County. Additional copies, if available, may be obtained by writing:

Collier County Public Schools  
Curriculum and Instruction  
Secondary Career and Technical Education  
5775 Osceola Trail, Naples, FL 34109

#### VISION STATEMENT

*All students will complete school prepared for ongoing learning as well as community and global responsibilities.*

#### NOTICE OF NONDISCRIMINATION

The District School Board of Collier County does not discriminate on the basis of race, color, national origin, sex, disability, or age in the provision of educational opportunities or employment opportunities and benefits. The District School Board does not discriminate on the basis of sex or disability in the education programs and activities that it operates, pursuant to the requirements of Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the American with Disabilities Act of 1990, respectively. The right not to be discriminated against extends to both employees and students of the District and shall include equal access to designated youth organizations in conformity with the Boy Scouts of America Equal Access Act. The following personnel should be contacted for inquiries about their rights or to learn how to file a complaint regarding discrimination.

#### STUDENTS

Educational Equity Act, Title IX, or the Age Discrimination Act of 1975, contact Stephen McFadden, Coordinator, School Counseling K-8, and Deputy Title IX Coordinator for Students, (239) 377-0517, The District School Board of Collier County, 5775 Osceola Trail, Naples, Florida 34109. Section 504 (Rehabilitation Act) and the Americans with Disabilities Act, contact Dr. L. Van Hylemon, Coordinator, Psychological Services, (239) 377-0521, The District School Board of Collier County, 5775 Osceola Trail, Naples, Florida, 34109.



## What is a Career Academy?

**A Collier Career Academy is a small personalized learning community, comprised of a group of students within the larger high school, who take classes together over a 2, 3, or 4-year span, and are taught by a team of teachers from different disciplines enabling students to see relationships among academic subjects, and their application to a broad field of work.**

**An academy includes the following essential elements: a small learning community; a college prep curriculum with a career theme; and partnerships with employers, the community, and higher education. Academy curriculum is rigorous and relevant and provides broad information about a field such as health care, finance, engineering, media, or natural resources. This curriculum is weaved into academic criteria which demands rigorous college-prep curriculum and clearly shows the elements of math, English, science and social studies that are essential in order to excel in career courses. Academy participation leads to industry recognized certification in high demand occupations; a standard high school diploma with either a merit or scholar designation; opportunities for high school students simultaneously earn college credit; and an opportunity to have a paid or unpaid internship.**

## History of the Academy

Beginning with the 2014-15 school year, the Academy of Engineering (AOE) became affiliated with the National Academy Foundation (NAF). Doing so enables the academy to join a national network of 546 other career-themed academy models throughout the US and US Virgin Islands. As a small learning community within the high school, the academy prepares students for college and career readiness in finance-related majors as well as other courses of study that demand a strong academic foundation in mathematics, social studies, and writing.

## Who's involved?

Involvement from district and school-site administrators, core academic and CTE teachers, guidance counselors, industry and post-secondary professionals and community leaders are involved along with input from academy students, school alumni, and parents.

## Why should a student enroll in the program?

Students with an interest in finance will become exposed to course work that is industry vetted, rigorous, and relevant with a culminating project-based learning activity at the end of each course. Rising juniors participate in a compensated internship. Local industries host extended learning experiences. Students not only pass an industry certification exam(s), but they learn leadership skills and apply knowledge learned in hands on real-world activities.