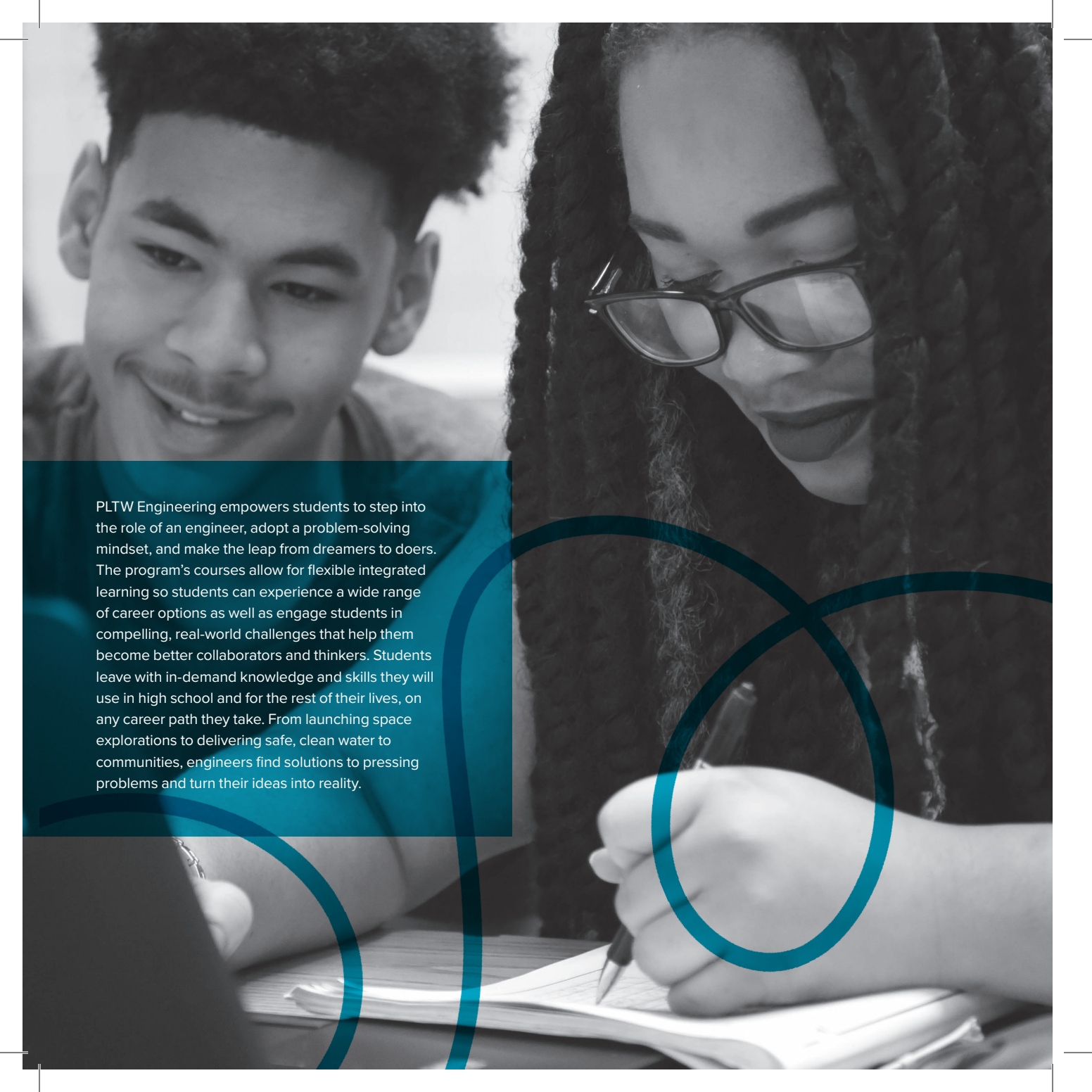


PLTW
ENGINEERING

   
pltw.org





PLTW Engineering empowers students to step into the role of an engineer, adopt a problem-solving mindset, and make the leap from dreamers to doers. The program's courses allow for flexible integrated learning so students can experience a wide range of career options as well as engage students in compelling, real-world challenges that help them become better collaborators and thinkers. Students leave with in-demand knowledge and skills they will use in high school and for the rest of their lives, on any career path they take. From launching space explorations to delivering safe, clean water to communities, engineers find solutions to pressing problems and turn their ideas into reality.

COURSES

Course Spotlight: Engineering Essentials

A new experience in PLTW Engineering, Engineering Essentials offers a multidisciplinary approach to teaching and learning foundational concepts of engineering practice, providing students opportunities to explore the breadth of engineering career opportunities and experiences and solve engaging and challenging real-world problems. By inspiring and empowering students with an understanding of engineering and career opportunities, Engineering Essentials broadens participation in engineering education and the engineering profession.

Introduction to Engineering Design

Students dig deep into the engineering design process, applying math, science, and engineering technology to hands-on projects like designing a new toy or improving an existing product.

Principles of Engineering

Students explore a broad range of engineering topics including mechanisms, structural analysis, strength of materials, machine control and automation, and then they apply what they know to take on challenges like sorting materials for recycling or designing an electrical energy generation and distribution system powered by renewable energy sources.

Aerospace Engineering

Students explore a broad range of topics related to aviation, aerospace design, and space travel and bring what they're learning to life through hands-on projects like designing a glider, creating a flight plan, and developing a program to navigate an autonomous space rover.

Civil Engineering and Architecture

Students learn important aspects of building and site design and development, and then they apply what they know to design both a residential building and a commercial facility.

Computer Integrated Manufacturing

Students discover and explore manufacturing processes, product design, robotics, and automation, and then they apply what they have learned to design solutions for real-world manufacturing problems.

Computer Science Principles

Using Python® as a primary tool, students explore and become inspired by career paths that utilize computing, discover tools that foster creativity and collaboration, and use what they've learned to tackle challenges like app development and simulation. This course is endorsed by the College Board, giving students the opportunity to take the AP Computer Science Principles exam for college credit.

Digital Electronics

Students explore the foundations of computing by engaging in circuit design processes to create combinational logic and sequential logic (memory) as electrical engineers do in industry.

Environmental Sustainability

Students investigate and design solutions in response to real-world challenges related to clean and abundant drinking water, food supply, and renewable energy.

Engineering Design and Development

Students identify a real-world challenge and then research, design, and test a solution, ultimately presenting their unique solutions to a panel of engineers.



For the past four years, PLTW has been a huge part of my life, and it's definitely changed my entire career path. I definitely wouldn't be wanting to study chemical engineering in college had it not been for PLTW."

— Keiana Cave'
Lusher Charter Middle and High School
PLTW Engineering Student

ASSESSMENTS

PLTW offers a first-of-its-kind summative assessment that measures both subject-matter knowledge and mastery of in-demand, transportable skills. In a rapidly changing economy, students with in-demand, transportable skills – including problem solving, critical and creative thinking, collaboration, communication, and ethical reasoning – are most likely to thrive throughout their education and careers. PLTW's Assessments are designed to mirror the transformative learning experience with results that impact your student's future.

Learn more at pltw.org or access our [White Paper](#).

PROFESSIONAL DEVELOPMENT

PLTW Core Training is a learning experience that incorporates authentic, meaningful, and best-in-class facilitation practices that ensure the quality delivery of course content. All participants will interact and learn together in an environment that offers increased flexibility in the training format, expanded resources, exciting networking opportunities, and the engaging high-quality course content that teachers expect from PLTW. PLTW's Core Training supports and empowers teachers from diverse backgrounds to successfully facilitate the courses.

Learn more on pltw.org