

Welcome to

Purdue Polytechnic High School

Indianapolis Indiana

A high school experience powered by partnerships.

How They Came to Be

Purdue Polytechnic High School's XQ Super School Journey

When Indiana education leaders recognized a disturbing trend—a disproportionately small number of students from underrepresented backgrounds from Indianapolis Public Schools attending Purdue University each year—they knew something had to be done. Purdue Polytechnic High School, developed in partnership with the university and partners across the state, was created to address this gap and build a bridge from high school to college to STEM careers. To build a vision for the school aligned with statewide workforce development goals, the school's leadership learned from experts and local stakeholders that they should prioritize hands-on, STEM learning that would prepare students for the college and careers. Since opening in its original location in 2017, the school's leaders continue to explore new ways to immerse its diverse student body in real-world learning that will equip many first-generation college students to thrive in whatever area of further study they choose after high school graduation.

Purdue Polytechnic High School exists to create a seamless transition from high school to college to the high-wage STEM jobs of the future.



Discover Purdue Polytechnic High School

The promise of Purdue Polytechnic High School (PPHS) is to create a pipeline for first-generation college students into higher education and high-demand STEM careers. PPHS has the highest rate of Black and Latinx students and students from low-income families passing the ELA and math tests out of all Indianapolis Public Schools, and all schools in Marion County at large. PPHS students use emerging technologies to solve problems systematically and rigorously. Instead of traditional courses, students learn academics through several industry-backed design challenges each year that are thoughtfully mapped to Indiana standards for high school, Purdue University admission requirements, and Indiana workforce development goals. In three years, PPHS has already expanded its model with a second and third location that are also in partnership with Purdue University, and plans to open additional locations in partnership with other Indiana communities and school districts are well underway.

The original location of Purdue Polytechnic High School, authorized by Indianapolis Public Schools, opened in 2017 and serves over 500 students in grades 9-12.

Purdue Polytechnic High School Design Features

1. From high school to college to STEM careers

Purdue Polytechnic High School is designed to act as a powerful engine for social mobility in Indianapolis. The school's team focuses explicitly on preparing students who have been underrepresented in STEM fields to succeed in both higher education and career. By forging a deeply collaborative partnership with Purdue University, PPHS leaders aligned their curriculum to the university's academically-rigorous standards and cultivated an intentional and authentic college-going culture. This is strengthened by offering qualified graduates guaranteed admission and dual enrollment opportunities at Purdue Polytechnic Institute, a college at Purdue University, while still in high school.

2. Real-world, future-ready work

The PPHS model leverages community and industry partners to ensure students have the exposure, preparation, and pathways needed to succeed in college, career, and life. Community and industry partners are invested in and integrated into students' learning, working with teachers to design curriculum and serving as mentors to students during internships. The school year is organized into six interdisciplinary "project cycles" that tackle challenges such as sustainability, public transportation, and conservation. During these projects, each of which lasts 4-6 weeks, students research the problem, design solutions, use technology for collaboration and creation, build prototypes, and pitch their ideas to the industry partner. 2020 partners include Subaru, Republic Airlines, United Way, Eli Lilly, and Eskenazi Health.



Shatoya Ward

Principal of Purdue Polytechnic High School

"Our students engage with the community. They speak to experts in some of the projects. We've even been able to involve the community in other countries or industries. Recently, students engaged with a director in Hollywood, to ask questions and see the work the director had done. I think the most important thing we're doing is taking down the walls that a school building would bring and having freedom to bring in community members that have expertise."



Shana Cash

ICP Coach

"Our community and industry partners help to create avenues for service learning and opportunities for students to explore their interests and discover their passion. Students can innovate right alongside career professionals, locally and internationally, to solve real world, present-day problems, further preparing them with the skills and mindsets to meet tomorrow's challenges."

3. Self-directed learning

At PPHS, teachers are called coaches and act as guides to students rather than instructors. This increases student agency over their learning and helps build a culture of support. Students begin each day in their Personal Learning Community, led by their coach. With the support of their coaches, students identify and set their own learning goals and plans—right down to determining how and where they spend their time each day. Students work on project teams or learn independently through an online platform with teacher-curated lessons, then supplement this learning with specialized content or skill workshops, small group sessions, and time in the “quant” lab or communications lab. Students earn digital badges as they submit evidence that shows their mastery of required knowledge and skills in each academic area.

4. Plans to scale throughout the state

PPHS and Purdue University share a commitment to creating pathways that take students from preschool through college graduation—particularly for those whose parents did not graduate from college. PPHS has plans to eventually establish 8-10 locations, with a goal of serving 5,000-6,000 students across Indiana. Their leadership is invested in making this vision a reality, and with the support of dozens of partners including industry giants and influential leaders like Purdue president and former Indiana Governor Mitch Daniel, their foundation is set for success. Their second and third locations, Purdue Polytechnic North and Purdue Polytechnic South Bend, opened in Fall 2019 and Fall 2020, respectively.



Colten Lewis

12th Grade Student

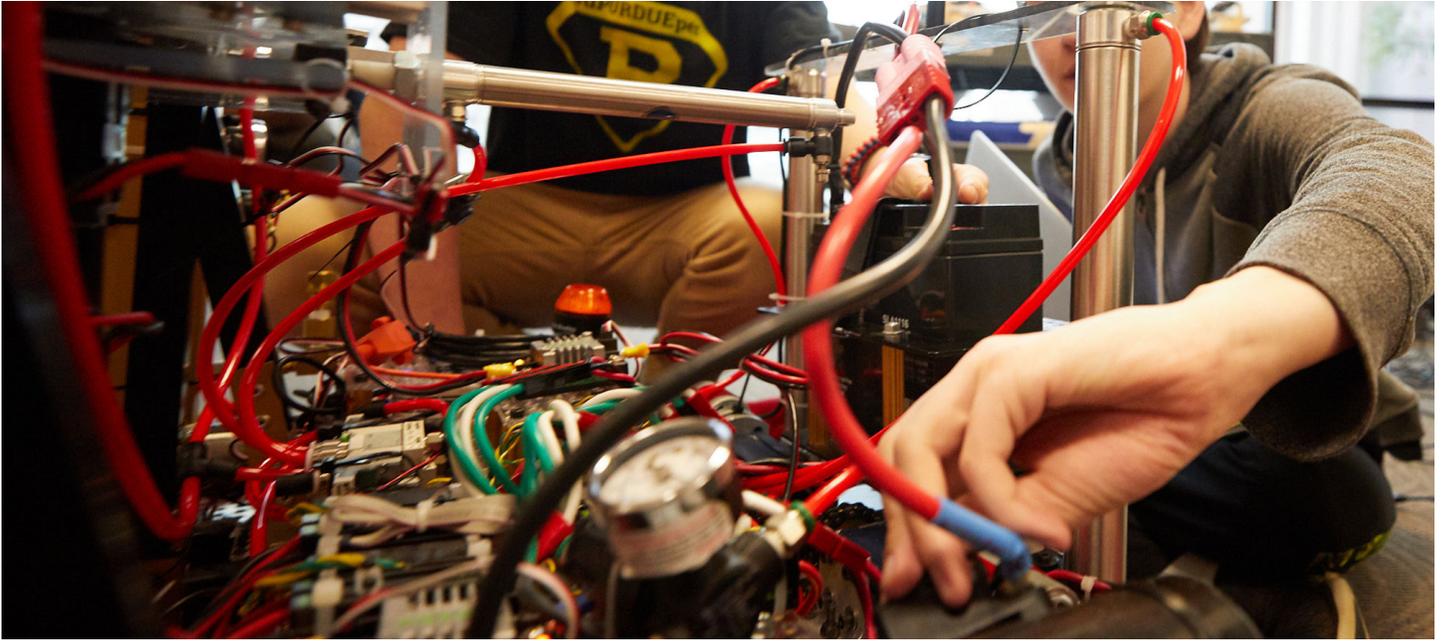
“I’ve been very fortunate to have amazing personalized learning coaches these past years, who have been very personal and relatable with the students. This year we’ve been having a lot of good conversations about adult life and preparing for life after high school. I don’t look up to my coach as a teacher but more as a friend and mentor.”



Lacey Beatty

Coach

Coach Lacey Beatty describes feeling like a rookie at PPHS during her first year, even though she’s a veteran educator with 17 years of teaching experience. “I had to break habits, and a lot of those were around students’ independence... In the beginning, I felt myself being like ‘No, stop that’ and had to say ‘No wait, they can do that.’”



Theory Into Action

Student work: Finding and developing passions

It's not easy to support students in finding their passions, and it's even harder to help them authentically pursue them. Purdue's projects make it easier. Colten Lewis was challenged by one of his coaches to [build a hydroponic system](#) with a team of peers. It took extensive research to learn about hydroponics, followed by the design and construction of a system that would grow produce using a water-based, nutrient-rich solution in place of soil. The project also included ample time for students to explore the business of hydroponics, and students determined how they could use the harvest from the project to provide healthy lunches and to supply food to community members in need. In the process, Colten discovered a new passion for business.

Indiana State Standards Met

- ✓ 11-12.W.5: Conduct short as well as more sustained research assignments and tasks to build knowledge about the research process and the topic under study. Formulate an inquiry question, and refine and narrow the focus as research evolves.
- ✓ QR.M.2: Use models, including models created with spreadsheets or other tools, to estimate solutions to contextual questions, such as functional models to estimate future population or spreadsheets to model financial applications.
- ✓ Env.8.4: Describe how agricultural technology requires trade-offs between increased production and environmental harm and between efficient production and social values.
- ✓ PSS-3.3: Design, implement and evaluate a plan to maintain optimal conditions for plant growth.

Competencies Met:

- ✓ Mindful Collaborators
- ✓ Self-Directed Learners
- ✓ Empathetic Global Citizens

Anti-racism and social justice

Check out "[Voices from the Field: Equity Mindset in Practice](#)," a short film that highlights the value of building relationships with students from the perspective of staff and students at Purdue Polytechnic High School.

Student data

Purdue Polytechnic High School serves 545 students in grades 9-12 this school year.

37%	Black	>1%	American Indian or Alaska Native
34%	White		
21%	Latinx	0%	Native Hawaiian or Pacific Islander
2%	Asian		
63%	Free Lunch		
18%	Special Education		



Mitch Daniels

President, Purdue University

"If we were to wait on the K-12 system to produce the numbers of first-generation, lower-income, and minoritized students that we are seeking to educate and prepare for better lives, we would wait forever. Too many young Hoosiers miss out on college either because of its cost or simply a disbelief that they can succeed there. Our Purdue-sponsored high schools are our attempt to open a new pathway to Purdue."



DeAnthony Carter

12th Grader

"I think going to Purdue has really changed my learning overall because of the projects I'm involved in. Music is one of my passions. That's what I love to do. Music, singing... it gets me in the career-thinking mindset. It helps me realize that math and English and stuff like that can be applied to a career in music, because you know you have to learn how to take care of numbers. It just helps you see the bigger picture of education and how higher education can lead to a more successful career."

Blogs and Media

- [Students Share What It's Like to Learn in an Innovative High School](#)
- [These High School Students Are Learning From Local Businesses Instead Of Textbooks](#)
- [How to Build Strong Relationships with Students Using Culturally Responsive Teaching](#)
- [Student Poetry to Promote Youth Voice and Choice](#)
- [Remote Learning Insights: The Role of the Student Is Shifting](#)

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