



Discovery Polytech Early College High School

Where Every Student Learns By Doing

School Profile

Name: Discovery Polytech Early College High

Location: Springfield, Massachusetts

Founding Year: 2021

Grades Served: 9-12

Enrollment: 184

Student Demographics: 96% students of color, 90% low-income students, 14% English learners, 14% students with disabilities

Results at a Glance



Early College Success:

85% of students passed their college courses, the same rate as their higher ed peers.



State Assessment Excellence:

94% of students passed state tests – all while meeting college-level expectations.



Strong Attendance:

93% student daily attendance rate, second highest among high schools in the partnership.



Discovery Polytech Early College High School's mission is to create opportunities for Springfield students to become tomorrow's leaders in science, technology, engineering, the arts, and math (STEAM). The school fosters ingenuity, encourages innovation, and helps students design and pursue individualized goals at their own pace.

Discovery was designed to disrupt cycles of economic disadvantage in Springfield. It opened in 2021 in response to longstanding opportunity gaps. Only 32% of Springfield high school graduates enroll in college and, five years later, the average graduate earns just \$22,000 annually – less than half the state average.

The Springfield Empowerment Zone Partnership (SEZP) was created to address these challenges in collaboration with the community, and Discovery emerged as one of its boldest initiatives.



NewSchools

The Model

Unlike traditional high schools, Discovery combines rigorous academics with early and sustained exposure to college and careers. Students enroll in college courses beginning freshman year, participate in progressive internships each year, and complete the requirements for a Massachusetts high school diploma.

Through partnerships with local technical, 2-year, and 4-year colleges, students pursue one of ten high-growth career pathways: mechanical engineering, optics and photonics, cybersecurity, computer programming, computer systems engineering, nursing and medicine, speech-language pathology, occupational therapy, hospitality and tourism, and graphic design.

By graduation, students leave with transferable college credits toward bachelor's degrees in their chosen fields, industry-recognized credentials, and work experience that position them for both higher education and high-wage careers.

Key Innovations

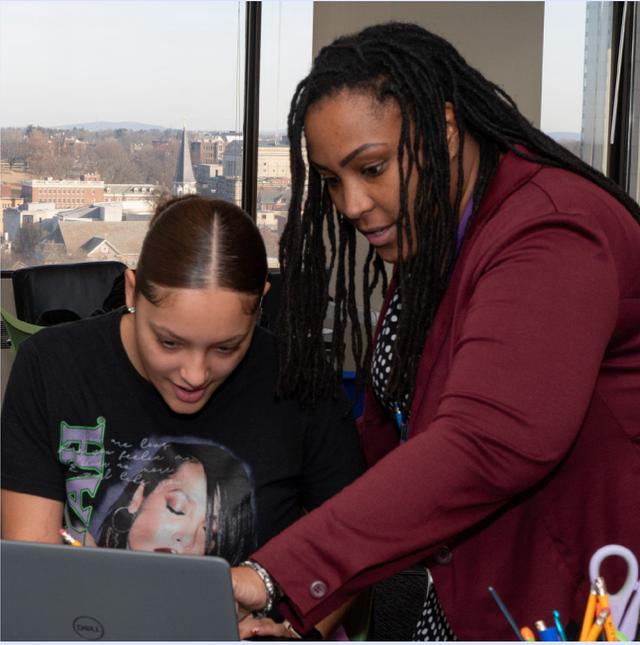
Teaching & Learning

- **Personalized College and Career Roadmaps:** Each student develops a roadmap that charts their path from freshman through senior year, incorporating high school graduation requirements, dual enrollment, and internships. Advisors check in regularly to align progress with goals and make adjustments when students need support or shift pathways.
- **Strategic Scheduling:** High school courses take place on Mondays, Wednesdays, and Fridays, while Tuesdays and Thursdays are reserved for college classes and targeted academic support, ensuring students can manage the dual demands of high school and college.

- **Advisory Structure:** A daily advisory session gives students direct support with time management, organization, communication with professors, navigating college coursework, and building executive functioning skills.

Career Pathways

- **Four-Tier Internship System:**
 - **Grade 9:** 20-hour virtual “nano-internships” help students build foundational workplace skills and explore career interests through signature experiences that help shape their career identity.
 - **Grade 10:** 50-hour virtual “micro-internships” help students apply industry-specific skills gained in college courses. These internships include networking and mentorship opportunities with professionals.
 - **Grade 11:** 100-hour in-person “macro-internships” place students within Springfield Public Schools and the Springfield Empowerment Zone. These experiences combine durable skills with career-specific knowledge, and include capstone projects and performance feedback.
 - **Grade 12:** 100-hour in-person “meta-internships” place students with external employers. Students receive career mentorship, build professional networks, and deepen their technical and workplace skills.



- **Family Engagement:** Families learn about the economic benefits of early college, including cost savings and wage advantages, and help shape their student's college and career roadmap. This builds shared understanding so academic choices reflect family values and priorities.
- **Community Partnerships:** A network of nonprofit and for-profit organizations, colleges, and community groups provide internships, externships, credentialing programs, mentoring opportunities, and career counseling to address barriers that Black and Latino students in particular face in the regional labor market.

Lessons Learned

People and Partnerships

- **Educator Recruitment and Retention:** 96% of educators at the school identify as people of color, reflecting the identities of students on campus. The school sustains this diversity by using several strategies: transparent hiring that prioritizes racial parity and recruits bilingual educators and diverse adjunct faculty through university partnerships; tuition assistance that covers 60% of costs for teachers of color to become adjunct professors; shared decision-making; and professional development that equips educators to teach both high school and college courses.
- **Distributed Leadership:** Executive Principal Declan O'Connor works with a school-based leadership team and leaders of the Springfield Empowerment Zone. Kelley Gangi, Chief of Innovation, works to expand the model to other SEZP high schools and develops industry partnerships in the region. At Discovery, the team tailors those partnerships to meet students' needs and manages the internship program.

Lesson 1: Innovation Needs Strong Systems

In its first year, Discovery learned that innovation requires solid support structures. Nearly half of students in college courses failed to earn credits because the schedule didn't allow enough time for academic help and interventions. One of the most critical responses was the creation of Academic Lab, a daily 80-minute support block that quickly became central to the school's success. The team also introduced an advisor system with small caseloads, bilingual educator pairings with emergent bilingual students, an "audit" option for college courses that protected transcripts, and systematic data tracking to guide interventions. Within two years, 85% of students passed college courses, with 82% of credits transferable, outperforming the average community college student.



Lesson 2: Partnerships Require Active Management

As Discovery expanded from one to five higher education institutions and multiple community and industry partners, the team learned that strong alignment doesn't always guarantee smooth collaboration. Each partner brought unique policies, faculty standards, student supports, and professional cultures. Effectively managing this ecosystem required a nuanced approach. Partnerships cannot be managed with a one-size-fits all strategy — they demand active relationship management, constant adaptation, and a focus on continuous improvement to keep the ecosystem working for students.

Lesson 3: Codifying Practices Strengthens Quality

As a lab school, Discovery documents its practices and develops training experiences so other schools can learn from its work. Codifying innovations also proved to be one of the school's most valuable tools internally. By capturing and training around what worked, the team gained a clearer understanding of the drivers of quality in their own model. This allowed them to maintain high performance as they grew and to support three other SEZP high schools in adopting wall-to-wall early-college approaches informed by Discovery's innovations.



Closing the College-Career Divide

Discovery Polytech Early College High School is proving that high school students can succeed in college coursework while building career skills when given structured supports, real work opportunities, and responsive intervention systems. As the team continues to refine its model, Discovery is reshaping expectations of what high school can do to prepare students for both college and high-wage careers.



NewSchools