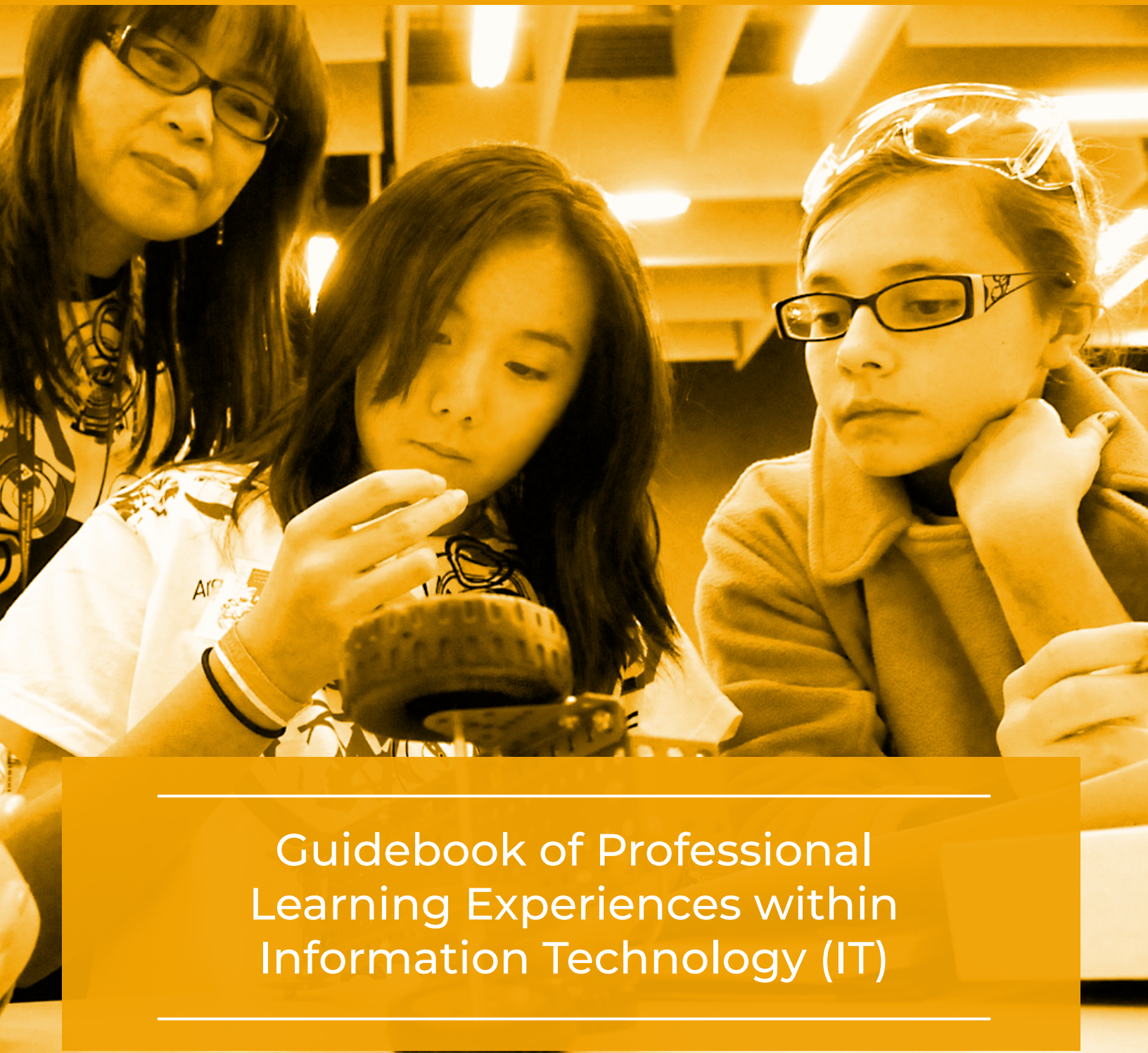


PWR

POSTSECONDARY & WORKFORCE READINESS ACT

College & Career Pathway Endorsements



Guidebook of Professional Learning Experiences within Information Technology (IT)



Contents

Introduction

Background	3
Scope of Work	3

I | Team-Based Challenges

ISTI STEM Challenge Program	7
FIRST Robotics with Embedded IT Mentoring	10
Project Lead the Way (PLTW) with Embedded IT Mentoring	12
Project SYNCERE	14
National Cyber League	16
CyberPatriot	17
Lumity One-Day Challenges	19

II | Career Development Experiences

District 214 Center for Career Discovery	21
Genesys Works	24
CPS Early College STEM School Internships	26
Everyone Can Code/One Summer Chicago	27
State Farm IT Cohort and Internship Program	29
Lumity Student Business Enterprise Program	30
Effingham CEO Program	31

Introduction

Background

The Postsecondary and Workforce Readiness (PWR) Act, signed into law in 2016, takes a student-centered and competency-based approach to help students achieve college and career readiness. The PWR Act identified four components to improve the alignment and transition from high school to-and through-college and into careers. One of those components is the **College and Career Pathway Endorsement (CCPE)**, which provides an innovative way for school districts to validate the hard work of students preparing for life after high school.

The PWR Act establishes a voluntary system for school districts to award college and career pathway endorsements on high school diplomas. The endorsement will demonstrate students' readiness for college and careers and the completion of instruction and professional learning experiences in a selected career interest area, and incentivize career exploration and development. These college and career pathway endorsements require an individualized learning plan, career-focused instruction, career exploration activities, and 60 hours of internships or similar career development experiences.

Currently, 16 Illinois communities, including more than 90 high schools, are planning to start the implementation of Endorsement systems in the coming year and are supported by the Northern Illinois University Education Systems Center (NIU EdSystems) and the Illinois 60 by 25 Network to plan and prepare for these Endorsements as communities.

Scope of Work

One of the key, in-demand, sectors included within PWR endorsements is Information Technology (IT). Broadly speaking, the IT industry and the pursuit of IT talent is undergoing transformation as companies attempt to determine how to best prepare and identify candidates for positions in occupations which are rapidly changing and for which there are very few certifications.

In Illinois, the largest STEM occupations by employment and growth are dominated by those in computer fields, which make up eight of the top 10 occupations by employment. This includes software developers (applications), computer systems analysts, computer user support specialists, and computer and information systems managers.¹ Employers of this talent include companies traditionally viewed as technology companies, but span across the state's diverse economic sectors, including finance and insurance; professional services; hospitality; health care; and transportation, distribution and logistics.

¹ [Illinois Innovation Index: 2018 Talent Index](#)

In helping to promote and incentivize meaningful engagements between high school students and employers, the PWR Act lays out mechanisms to define and categorize these interactions. Among the activities classified as “professional learning experiences” in the PWR Act are team-based challenges with adult mentoring and career development experiences.²

Team-based challenges are problem-based learning experiences that involve authentic business problems and includes mentoring from adults with expertise in that area, and requires students to present the outcomes of their work. **Career development experiences** are supervised work experiences relating to an individual’s career area of interest that occurs in the workplace or under other authentic working conditions. To meet the requirements of the CCPE, students have to complete two team-based challenges with adult mentoring and 60 hours of career development experiences.

Currently, there are a number of existing programs and models that would be captured in these two areas, but have not been formally aggregated or assessed within the context of meeting the requirements of the endorsements described in the PWR Act.

The Illinois Science & Technology Institute (ISTI) has partnered with NIU’s EdSystems and the 60x25 Network to begin the process of collecting this information, specifically within the IT space. What follows is an initial listing of examples of these professional learning experiences within IT, organized by team-based challenges and career development experiences. Each example includes a summary of the program/experience, timeline for implementation, funding model, impact, and case study examples of successful activity.

In determining the efficacy and impact of these programs, it will be important to reference the College and Career Pathway Endorsement Technical and Employability Competencies³, which serve as indicators of an individual’s readiness to enter an industry or pursue further education. These competency statements apply to current industry needs, and contain both employability and technical skills.

The top 10 cross-sector essential employability competency statements include: Teamwork & Conflict Resolution; Problem Solving; Communication (verbal, written, and digital); Decision Making; Critical Thinking; Adaptability & Flexibility, Cultural Competence; Initiative & Self-Drive; Reliability & Accountability; and Planning & Organizing.

The top 10 technical competency statements for Information Technology, include: Basic Principles of Information Technology Concepts, Systems, Platforms & Tools; Security; Logic & Fundamentals of Computer Languages; Routing & Network Configuration; User & Customer Support; Basic Principles of Hardware; Risk Management & Information Assurance; Basic Principles of Software

² [State of Illinois Career Pathways Dictionary: A Unified State Framework for College and Career Readiness and Success](#)

³ [PWR Act Statewide Public-Private Steering Committees for College and Career Pathway Endorsements Recommended Technical and Essential Employability Competencies](#)

Development; Networks; and Basics of Virtualization & Cloud Computing.

At some level, the programs listed as part of this guidebook provide learning opportunities and skill-building from both employability and technical competency areas. However, more work is needed to assess the extent to which the competencies are achieved through these and other programs.

Working Group of Advisors

As part of this work, ISTI has established a working committee of IT sector partners for guidance and input. This includes employers in traditional IT fields, as well as employers from other sectors (such as healthcare, financial services, insurance, and manufacturing) which have a strong workforce need in the IT space, as well as non-profit program providers. This group will be focused on providing information and giving feedback on these examples and models of learning experiences in the IT space, while also helping to identify gaps and metrics to ensure successful outcomes.

Committee Members

- Jami Becker, *State Farm*
- Madeleine Boesche, *CME Group*
- Olga Gutierrez, *Apple*
- Adam Hecktman, *Microsoft*
- Julia Kanouse, *Illinois Technology Association*
- Mike McGee, *CodeNow*
- Sandeep Nain, *SNTial Technologies*
- Allie Parker, *Chicago Public Schools*
- Liz Rafferty, *Genesys Works*
- Kevin Reeves, *State Farm*
- Candice Savino, *Trunk Club*
- Dan Weidner, *School District 214*

Goals and Intended Use of this Document

The overarching goal of the PWR Act is to support college and career readiness. This document was developed as a tool in a broader toolkit to enable opportunities for students to connect with adult mentors and build professional skills throughout their time in high school.

While not to be treated as exhaustive, this guidebook is intended to be a living document that will be utilized to share best practices with those communities pursuing the IT endorsement. We anticipate that the examples of successful learning models and programs described in this document will be applied, re-purposed, or utilized to develop new programs by school districts, employers, non-profit providers, and others to achieve impactful, scalable, and sustainable partnerships between high school students and employers.

This guidebook also contains core principles of implementing successful partnerships between students and employers, which will be useful as communities think about establishing or enhancing new partnerships that meet the requirements of team-based challenges and career development experiences.

I. Team-Based Challenges

The State of Illinois Career Pathways Dictionary defines Team-Based Challenges as:

A group problem-based learning project relating to an individual's career area of interest that involves a problem relating to employers within that area, including mentoring from adults with expertise in that area, and requires the individual to present the outcomes of the project.

For further definition, Problem-Based Learning (PBL) is a student-centered teaching method in which complex, open-ended, real-world problems are used as a vehicle to promote student learning of concepts and principles as opposed to direct presentation of facts and concepts.

PBL does not focus on problem solving with a defined solution, but rather teaches students the process of problem-solving. Studies have demonstrated positive outcomes of PBL, including the development of creativity and critical thinking skills, problem-solving abilities, and communication skills. It can also provide opportunities for team-building/working in groups, finding and evaluating research materials, increasing motivation, and helping students learn to transfer knowledge to new situations (Duch et al, 2001).

The following are some of the defining characteristics of PBL:

- Learning is driven by challenging, open-ended problems with no one “right” answer
- Problems/cases are context specific
- Students work as self-directed, active investigators and problem-solvers in small collaborative groups (typically of about five students)
- A key problem is identified and a solution is agreed upon and implemented
- Teachers adopt the role as facilitators of learning, guiding the learning process and promoting an environment of inquiry
- Rather than having a teacher provide facts and then testing students’ ability to recall these facts via memorization, PBL attempts to get students to apply knowledge to new situations. Students are faced with contextualized, ill-structured problems and are asked to investigate and discover meaningful solutions.

ISTI STEM Challenge Program

Program Summary

The Illinois Science & Technology Institute (ISTI) is a STEM-education focused non-profit that provides programs to connect companies and universities with classrooms. Through the STEM Challenge program, ISTI partners some of the state's most innovative companies with high schools over 4-6 months to work on authentic, interdisciplinary business problems identified by each company.



Team-Based Challenges

Students have the unique opportunity to innovate alongside company mentors (both in-person and through the use of the Mentor Matching Engine e-mentoring platform) and develop solutions that address pressing issues in healthcare, IT, energy, manufacturing, etc. Students work in teams to develop these innovations (new products, prototypes, apps designs, etc) which they formally present back to their partner company. ISTI coordinates and manages all elements of program delivery, including: challenge development; teacher professional development and coaching; mentor training; and logistics.

For 2018-19, 27 high schools across Illinois paired up with one of 17 industry partners. Those with an IT focus, included Caterpillar, Cisco, CME Group, Dell, IBM, Northrop Grumman, Microsoft, and Motorola Solutions—with Allstate/Arity and Uptake with strong data science elements.

Timeline

The STEM Challenge process runs concurrently with the academic year. Challenges are developed with each company partner in late summer/early Fall, with mandatory teacher professional development in early October. Challenges typically kick-off in the classroom between November and January. Students work between January and April in developing their innovations. Company mentors generally make 2-3 in-person site visits and host a site visit for students to the company as well.

Students also connect virtually with mentors throughout the process (typically weekly or bi-weekly) on the ISTI's Mentor Matching Engine (MME). MME is a project-based, online collaboration tool that allows students to connect directly with professionals anytime, anywhere, in a safe and secure environment, under the guidance and supervision of teachers. Mentors provide ongoing guidance in a discussion-based forum that can accommodate document sharing and video conferencing.

The STEM Challenge process ends with student presentations to each company and a larger statewide showcase at the end of April ([view student presentations from the STEM Challenge showcase on April 26, 2019 at Google](#)).

Funding Model

Companies pay a program participation fee of \$25,000 for the year, schools pay a \$1,500 participation fee.

Impact

Over the last five years, ISTI's STEM Challenge and Mentor Matching Engine has reached more than 6,500 students at more than 80 high schools across the state. More than half are students of color and 45% are female. These programs provide transformative learning experiences for young people, helping to build and improve confidence in life-long employability skills, like teamwork, communications, problem solving, and decision-making. STEM Challenges also help to demystify in-demand careers and create new lines of sight to pathways in STEM fields.

Key Findings from 2017-18:

Nearly 75% of students reported working with a professional mentor for the first time; 82% of students reported improved confidence in STEM skills; 80% of students spent more than 1 hour/week working on their projects; 92% of teachers reported that their students improved their overall STEM skills; 70% of teachers reported incorporating at least one new technique into their teaching practice as a result of the program; and 85% of students increased or maintained their interest in STEM in high school, college and careers after participating in the program.

Case Study Examples

Microsoft challenged students at five Chicago public high schools to create their own chatbots, which is a robot programmed to respond like a human, to address a community problem. In 2017-18, teams of students worked to develop a number of diverse chatbots. For example, Foreman High School students designed and developed a multilingual chatbot to assist non-native speakers at their school and in the community. Lake View High School students created a bot, called Determined Efficient Accurate Friend (DEAF), that would translate American English into American Sign Language (ASL) to bridge the gap for deaf students and parents.

Caterpillar challenged students to envision the construction site of the future. Working with three high schools, including Peoria-area high schools Richwoods and Williamsfield, teams of students worked to design a product or application to aid CAT workers, equipment, technology, or outcomes, specifically pertaining to jobsite safety and efficiency.

Northrop Grumman STEM Challenges involve building and coding a physical product. In 2017-18, students at three suburban high schools, including Wheeling and Palatine, designed sensors for R/C vehicles (mock spacecrafts) to explore the makeup of planets on a course designed by Northrop Grumman employees. Student quote from Wheeling HS: "Everyone increased their communication skills, their working skills. None of us knew coding. We started working together. We made it happen. We grew as a big family."

Takeda Pharmaceuticals has partnered with eight different high schools over the last four years on challenges that have tackled the patient experience across Takeda's therapeutic areas. In 2016-17, Takeda challenged students to address the problem of medication adherence in either diabetes or depression and develop a solution for patients. While the challenge allowed for a spectrum of solutions, many have included an IT focus. A team of students at Phoenix Military Academy built a robot with sensors that would help to remind and dispense medication to patients. A team of students at Solorio Academy developed a mobile app called "Medimoji" to help diabetes patients with reminders and resources to take their medication and track their wellness and well-being.

AbbVie has partnered with North Chicago Community High School on the STEM Challenge for the last four years. In 2016-17, AbbVie challenged students to design and recommend an innovation or process that will improve the lives of patients with cancer. Multiple teams of students developed IT-related solutions to address this challenge, including the development of “Elpida Life” a social media app that would allow cancer patients to connect with other cancer patients who may be going through similar challenges.

FIRST Robotics with Embedded IT Mentoring

Program Summary

FIRST (For Inspiration and Recognition of Science and Technology) was founded in 1989 by Dean Kamen to inspire young people's interest and participation in science and technology. Based in Manchester, NH, the 501(c)(3) not-for-profit public charity designs accessible, innovative programs that motivate young people to pursue education and career opportunities in science, technology, engineering, and math, while building self-confidence, knowledge, and life skills.



With support from over 200 of the Fortune 500 companies and more than \$80 million in college scholarships, FIRST hosts the FIRST® Robotics Competition for students in Grades 9-12; FIRST® Tech Challenge for Grades 7-12; FIRST® LEGO® League for Grades 4-8; and FIRST® LEGO® League Jr. for Grades K-4.

The FIRST Robotics Competition provides high school students and their adult mentors the opportunity to work and create together to solve a common problem. Under strict rules, limited resources, and a six-week time limit, teams of students (typically 10 or more) are challenged to raise funds, design a team "brand," hone teamwork skills, and build and program industrial-size robots to play a difficult field game against like-minded competitors. Volunteer professional mentors lend their time and talents to guide each team (at least 2 mentors per team). Each season ends with a competition.

Timeline

Teams form and register in the Fall, with the challenge announced and kicked-off in January. Teams are given 6-weeks to create their robots with district and regional competitions in late February-April.

Funding Model

There are annual team registration fees (\$5,000-\$6,000) which teams often fundraise for to participate.

Impact

The FIRST program has well-documented outcomes for students in the areas of STEM awareness, skills and intent to pursue STEM careers; 21st Century work-life skills (teamwork, self-confidence); and leadership, innovation and entrepreneurship ([more here](#)).

FIRST Robotics Competition teams get to: Learn from professional engineers; master STEM skills; learn and use sophisticated software, hardware, and power tools; build and compete with a robot of their own design; improve teamwork, interpersonal, and communication skills

Annual Reach: 515,000+ students from 59,000 teams; 44,700+ robots created; 150,000+ mentor/coach/adult supporter roles filled; 105,000+ other volunteer roles filled (e.g. event volunteers, affiliate partners, VISTAs).

Case Study

Township High School District 214 in the Northwest Chicago Suburbs began its WildStang FIRST Robotics program in 1996. The group has won the FIRST Championship three times and was inducted to the “FIRST Robotics Hall of Fame” in 2006. Since its inception, it has grown to include students from all six District 214 high schools as well as middle school students from one of its sender districts. Through this innovative program of mentor-led classes with differentiated instruction, coupled with the FIRST Robotics Competition, WildStang has pushed students beyond what they thought possible--creating an environment that encourages the sharing of ideas, creative problem solving, and student-to-student mentorship.

Project Lead the Way (PLTW) with Embedded IT Mentoring

Program Summary

PLTW is a national nonprofit organization that develops STEM curricula for use by US elementary, middle, and high schools. The program offers a hands-on, problem-based curriculum that focuses on real-world, applied learning experiences, combined with teacher professional development. The curriculum emphasizes critical thinking, creativity, innovation, and real-world problem solving. Their approach scaffolds student learning through structured activities and projects that empower students to become independent in the classroom and help them build skill sets to apply to an open-ended design problem.



Team-Based Challenges

PLTW offers a sequence of courses, modules, and units that are aligned to standards. The grades 9-12 courses that are IT-related include: Computer Integrated Manufacturing; Computer Science Principles; Digital Electronics; and Engineering Design and Development. Through Computer Science Principles, students use Python® as a primary tool and incorporate multiple platforms and languages for computation, while aiming to develop computational thinking, generate excitement about career paths that utilize computing, and introduce professional tools that foster creativity and collaboration. Projects and problems include app development, visualization of data, cybersecurity, and simulation.

PLTW is recognized by the College Board as an endorsed provider of curriculum and professional development for AP® Computer Science Principles (AP CSP). This endorsement affirms that all components of PLTW CSP's offerings are aligned to the AP Curriculum Framework standards and the AP CSP assessment.

Timeline

PLTW is implemented during the school year as an elective course.

Funding Model

Schools that register with PLTW pay an annual participation fee (\$2,000) that includes the curriculum, all required course software, access to school and technical support, and access to PLTW's learning management system. Additional costs are calculated based on number of teachers, supplies, and number of courses.

Governments of several states (NY, IN, IA, SC), have provided funding to PLTW to support future development. A number of foundations have also provided financial support for the program, particularly to subsidize the cost for schools to access PLTW and increase the number of students pursuing engineering and technology careers. Locally this includes the Kern Family Foundation, Ewing Marion Kauffman Foundation, the John S. and James L. Knight Foundation, and the Conrad Foundation.

Impact

Independent studies have demonstrated the impact of PLTW programs, where students develop in-demand, transportable skills – problem solving, critical and creative thinking, collaboration, and communication. PLTW students generally outperform their peers in school, are better prepared for post-secondary studies, and are more likely to consider careers as scientists, technology experts, engineers, mathematicians, healthcare providers, and researchers compared to their non-PLTW peers.

Case Study

State Farm utilized the ISTI STEM Challenge program model to partner with three area high schools on an IT-focused challenge. Students at Normal Community, Normal Community West and Bloomington high school took part in the challenge as part of an AP Computer Science or Project Lead the Way Class. State Farm challenged students to identify a problem in their community and address it through one of State Farm's three focus areas: home, auto, and finance. Students developed solutions that allowed them to explore connected devices tied to one's car and home, app development, and physical prototypes. In one example from Normal Community high school, students developed and built a smart system for the home to detect flooding, which links with your mobile device to send notifications if water is detected.

Bartlett High School students taking the PLTW Engineering Design & Development course have been able to link up with adult mentors with subject-matter expertise, using the Illinois Science & Technology Institute's Mentor Matching Engine. Students worked in teams on building a variety of prototypes, including a wearable device to protect people from UV rays and keep them cool.

Project SYNCERE

Program Summary

Project SYNCERE is a Chicago-based non-profit whose mission is to prepare the minds and create pathways for underrepresented and disadvantaged students to pursue careers in the Science, Technology, Engineering, and Math (STEM) fields. First launched in 2009, our programs ensure youth from underserved communities have access to opportunities that will inspire and prepare them for future careers in STEM.



Through our project-based learning curriculum, Project SYNCERE has provided STEM education for over 18,000 students throughout Chicago with the majority of these programs taking place on Chicago's south and west side. Our programs provide students with year-round opportunities to gain an understanding of engineering-based principles and recognize how they are connected to everything around them.

Project SYNCERE offers two core programs, ENpowered and E-CADEMY, that provide access and resources to a population of students who would otherwise lack access to them. These two pre-existing programs, are delivered over the course of 12 months, impacting more than 3,500 students annually.

ENpowered - An Introduction to STEM Fields

Our ENpowered program, which first launched in 2009 provides students in grades 3-12 with hands-on engineering experiences that are designed to increase their interest and understanding of STEM. These programs, which often take place as a school-based program or summer camp provide students with an introduction to the STEM fields through the use of our hands-on project-based learning curriculum. The goal this program is to provide an initial spark for students in the STEM fields, with the hope that they will continue to nurture their interest in the field.

E-CADEMY - Preparing Students for a Career in STEM

Launched in the fall of 2016, Project SYNCERE's E-CADEMY program is the only year-round STEM program in Chicago that exposes middle and high school students to careers in engineering and provides them with active learning activities and experiences that lay the groundwork for their entry into post-secondary institutions. E-CADEMY is a multi-year engineering program that provides students with a 3-6 year experience that will help them develop a deep understanding of engineering principles and skills prior to college.

Our goal is to provide students with a pathway of opportunities that allow them to not only increase their interest in the STEM fields, but also develop the skills, confidence and knowledge they need to be successful at the post-secondary level and beyond.

Timeline

Project SYNCERE provides in-school and out-of-school programming throughout the year as both school-based programs and summer camps.

Funding Model

Programs are supported through public, private and philanthropic funders, which in Chicago includes The Boeing Company, ComEd, ArcelorMittal, Polk Brothers Foundation, Albert Pick Fund, Motorola Solutions, and GM Foundation, Microsoft, Chicago Public Schools, Department of Family and Support Services and others.

Impact

Project SYNCERE's programs are providing our nation will a vital boost to help us develop the home-grown talent that is necessary for our success as a leader in STEM. Our programs are providing a pathway of opportunities for underrepresented youth who are too often overlooked in the scientific and technological fields, but are no less capable of inventing the solutions that will help us grow our economy and remain a leader in STEM.

Our programs are helping to raise students' interest and confidence in their ability to be successful in the STEM fields. Students who participate in our program have increased self-esteem, increased understanding of math and science, improved critical thinking and problem-solving skills, and an increased overall enthusiasm for school. Students learn to utilize the engineering design process to solve real-world problems. The goal is to produce successful self-directed learners who are equipped to excel in the global market.

Specific student outcomes include: increased interest in STEM career, increased proficiency in engineering skills, learn to use industry leading software to solve engineering problems; create solutions to engineering design challenges; build a portfolio of work for continued education opportunities; gain skills in communication, critical thinking and collaboration; entrance into a post-secondary institution to pursue a STEM degree.

Case Study

High school students who participate in Project SYNCERE's E-CADEMY program have the opportunity to participate in its Innovation Lab during the summer. This apprenticeship program brings all of the high school students together to solve a problem that has been submitted by one of our community, civic or corporate partners. Last year our high school students worked to design, prototype and build a delivery box system that could safely store packages for home owners that were delivered by Amazon, UPS, etc... With the increase in package theft homeowners are facing, we wanted to design a system that would allow home owners to safely receive their packages and store them without worry of theft. Students came together to design and prototype a system that utilized technology and communication systems that would allow the delivery carrier to electronically access the device and would allow the home owner when the device was opened and tampered with. In order to efficiently complete the design, students divided themselves into smaller groups such as project management, design, prototyping and research. The students also scheduled meetings with engineers from Radius Innovation to get feedback throughout the process to improve their design and their approach. Towards the end of the process, a Patent Attorney from DLA Piper stopped by to talk with the students about their Intellectual Property and to give them advice on how to protect their design. The students were then able to present their final solution at the closing ceremony during the summer. marketing and business plan around their devices, which they then pitched to a "Shark Tank" style panel during the closing ceremony in April.

National Cyber League

Program Summary

The NCL is a defensive and offensive puzzle-based, capture-the-flag style cybersecurity competition. Its virtual training ground helps high school and college students prepare and test themselves against cybersecurity challenges that they will likely face in the workforce. All participants play the games simultaneously during Preseason, Regular Season and Postseason.



The NCL challenges are based on the CompTIA Security+™ and EC-Council Certified Ethical Hacker (CEH)™ performance-based exam objectives and include the following content: Open Source Intelligence, Scanning, Enumeration and Exploitation, Password Cracking, Traffic Analysis, Log Analysis, Wireless Security, Cryptography, and Web Application Security.

The NCL is open to anyone enrolled in high school or a collegiate institution. Players are expected to commit to the entire season. Players should have a cross-section of beginner knowledge and skills in computer science, networking, systems administration, operating systems, and programming/scripting.

Coaches serve as mentors and in some cases, drive the NCL activities for a school/organization (e.g., schedule meetings, pay for player NCL registration fees, etc.). Some schools/organizations have multiple coaches very involved in the NCL; others have none.

Timeline

There is a preseason, regular season and a post season throughout the Fall. The timeline for Fall '18 was: Gym Training - 10/08-12/15; Mandatory Preseason Game: 10/19-10/27; Regular Season Game: 11/02-11/04, Postseason game: 11/16-11/18.

Funding Model

There is a registration fee of \$25 per individual to participate in the Preseason and Regular Season and \$10 per player for Postseason play (teams are formed of 2-5 players).

Impact

High School students benefit from the NCL by getting an early jump-start in the pursuit of cybersecurity skills. Experience has shown that high school students achieve great satisfaction in competing against students at the collegiate level as they prepare either for further education or the workplace.

Since 2012, schools participating has doubled and students participating has tripled. With the addition of the Spring rounds, the program is able to offer more opportunities. 93% of students report increased knowledge of cybersecurity and 89% say that the program improved their critical thinking skills ([2015-16 Impact Report](#)).

CyberPatriot

Program Summary

The CyberPatriot National Youth Cyber Education Program was created by the Air Force Association (AFA) to inspire K-12 students toward careers in cybersecurity or other STEM disciplines critical to our nation's future.



**Team-Based
Challenges**

At the center of CyberPatriot is the National Youth Cyber Defense Competition. The competition puts teams of high school and middle school students in the position of newly hired IT professionals tasked with managing the network of a small company. In the rounds of competition, teams are given a set of virtual images that represent operating systems and are tasked with finding cybersecurity vulnerabilities within the images and hardening the system while maintaining critical services. Teams compete for the top placement within their state and region, and the top teams in the nation earn an all-expenses paid trip to Baltimore, MD for the National Finals Competition where they can earn national recognition and scholarship money.

Teams are made up of 2-6 students, and are led by a coach, usually a teacher. There are 10 modules of instruction. Each coach can register 5 teams of students. Each team has a team mentor and/or a team assistant, who are also volunteers. A team mentor has knowledge of cybersecurity, while a team assistant may not. The team coach can contact team mentors through the competitor portal.

Timeline

Competition Timeline—Registration opened April 2018 followed by some exhibitions and a training round. Practice round is in October; Round 1 is from November 2-4, Round 2 is from December 7-9; State round is from January 11-13, 2019; Semi-Finals is from February 1-3; and National Finals is from April 7-11. Competitions are day-long events, lasting 6 hours.

Funding Model

The regular payable fee for each CyberPatriot X Open Division team is \$205. Students/teams are often sponsored.

Impact

Of the students that completed the program, 95% of those still enrolled in high school report that they are planning on attending a 2-yr college or a 4-yr university. 82% are or will be looking for jobs in cybersecurity.

At the beginning of the program, 87% of participants were male. Since the introduction of fee waivers for all-female teams, the male participant ratio is down to 75%. Cyberpatriot also partners with groups that represent minorities to increase minority participation in the competition.

Case Study

Since 2017, Lyons Township High School has held an afterschool club where students can prepare for CyberPatriot competitions. The club also blends mentorship from IT professionals to help students prepare for the competitions, and to learn about careers in IT. The club meets on a weekly basis for 45 minutes. Two teams qualified to compete at the state-level at the two highest levels, Platinum and Gold Tiers ([more information here](#)).

Lumity One-Day Challenges

Program Summary

Lumity is a non-profit organization providing teens and young adults in underserved communities with transformational experiences to prepare them for lifelong STEM careers. Lumity's programs aim to teach and strengthen students' critical thinking and problem-solving skills, ability to work in a team and effectively collaborate, and teach valuable presentation skills.



Lumity's real world projects provide students with hands-on experience solving problems and learning skills directly applicable to the workplace. The projects provide an opportunity for students to get a start-to-finish perspective of solving problems relevant to their school and/or community, gaining a sense of accomplishment when they can see the impact of their work.

Through its one-day challenges, Lumity partners with a corporate host to bring a group of students out of school and into their office. Students experience solving a problem over the course of a day while getting coaching from corporate volunteers. As one example, Health Care Services Corporation received creative ideas on a mobile app for their company.

Additionally, in partnership with a small team of corporate volunteers and Lumity staff, students can also work on a challenge in small teams over a series of several weeks. Corporate volunteers support the teachers in implementing the challenge and interact with students to help them hone in their problem-solving and teamwork skills. Each challenge is integrated into school curriculum, helping students connect the dots between school and career.

Lumity is also a Code.org Regional Partner in Illinois, which includes hosting professional development sessions for local teachers implementing Code.org curriculum and recruiting additional school districts to adopt Code.org curriculum in their classrooms.

Timeline

Lumity programs run for varying lengths throughout the year, including summer programs, and currently serve four high schools: Amundsen High School, Chicago Vocational Career Academy, Von Steuben and Waukegan High School

Funding Model

Programs are supported through private and philanthropic funders, which includes Accenture, Allstate, BCBS, CDW, USG, Searle Funds and the Chicago Community Trust.

Impact

Specific numbers or outcomes were not accessible on Lumity's website, but the organization describes that its four-year program supports students through each of their high school years aiming to teach and strengthen students' critical thinking and problem-solving skills, ability to work in a team and effectively collaborate, and presentation skills.

II. Career Development Experiences

The State of Illinois Career Pathways Dictionary defines a Career Development Experience as:

A supervised work experience relating to an individual's career area of interest that:

- *Occurs in a workplace or under other authentic working conditions;*
- *Is co-developed by an education provider and at least one employer in the relevant field;*
- *Provides compensation or educational credit to the participant;*
- *Reinforces foundational professional skills including, at a minimum, those outlined in the Essential Employability Skills framework;*
- *Includes a Professional Skills Assessment that assesses skill development and is utilized as a participant feedback tool; and*
- *Takes place for a minimum of 60 total hours.*

Career Development Experiences may include any of the following, provided the experience meets the definitional criteria: internship, school-based enterprise, supervised agricultural experience, cooperative education, research apprenticeship, remote work for a client or employer, student-led enterprise, or youth apprenticeship. However, a Career Development Experience may not consist solely of technical training by an education provider.

These work-based learning opportunities provide students with real-life work experiences where they can apply academic and technical skills and develop their employability. Work-based learning goals include:

- To engage and motivate students in learning by connecting classroom work to students' personal and career interests.
- To reinforce and improve academic learning (as defined by the content of core academic classes).
- To engage students in new modes of thought (e.g., higher-order critical thinking and problem solving) or otherwise facilitate learning through contextualization and the enculturation offered in social learning and communities of practice.
- To develop students' career/technical skills as a means to learning.
- To advance students' social and emotional development toward adulthood, including their identity formation and their sense of self-efficacy.
- To expand students' social networks and access to opportunities.
- To enhance students' general workplace competencies, such as communication, teamwork and project planning.
- To enable career exploration, and to enhance students' understanding of particular careers through breadth of exposure at the worksite.

District 214 Center for Career Discovery

Program Summary

Township District 214 is the second largest high school district in Illinois. It includes six high schools and one specialized school with four programs serving about 12,331 students in the communities of Arlington Heights, Buffalo Grove, Elk Grove, Mt. Prospect, Prospect Heights, Rolling Meadows, Wheeling and Des Plaines.



District 214's Center for Career Discovery provides its students with a continuum of career-related activities and workplace learning experiences to support their career exploration and help advise and affirm career choices for students before they graduate. These include internships and micro-internships, apprenticeships, and mentorships.

I. Internships & Micro-internships

Internships and micro-internships are available to juniors and seniors. The choices of careers follows the National Career Clusters Framework, which include agriculture, business, finance, health science, IT, manufacturing, STEM, and transportation/logistics.

Before students participate in the internship program, they have to talk to a career advisor about their goals. Internships are 60 hours (6-9 weeks) or students have the opportunity to participate in two micro-internships which are 30 hours (1-3 weeks). Students must be able to intern 5-10 hours per week, either during the day, or after school and weekends. After completion of the program, the students receive one semester of class credit (0.5 credit hours).

District 214 also offers summer internships; students are expected to intern 15 hours per week and complete weekly assignments. Additionally, the student is monitored and evaluated by a teacher. The student receives 0.5 credit hours after the completion of the program.

An important requirement across the internship programs is that students also have to take a class related to the career that the internship is meant to explore. Also, partners can agree to have a stronger role in mentoring, or there may be additional coursework during the time of the internship that is related to the career choice.

Timeline

Application deadlines for the fall, spring and summer semesters are April 15, October 15 and March 15 respectively. After the application deadline, students will be invited for an interview, and then receive an offer.

Funding Model

Students do not have to pay a fee to participate in the program during the school year. The internships are unpaid, thus neither the companies that agree to host students, or the school has to cover the cost of a salary. The internship program is a partnership between the school district and local businesses. Summer interns pay only summer school registration fees.

II. Apprenticeships

District 214 offers a variety of youth apprenticeships--employer-driven, “learn while you earn” models that combine structured, paid on-the-job training (OJT) with job-related instruction in curricula tied to the attainment of industry-recognized skills standards and leading to an industry credential. Currently, District 214 supports youth apprenticeships in areas including Information Technology - Cybersecurity; Heating, Ventilation, and Air Conditioning; and Automotive Technology.

Instruction and technical training related to the apprenticeship is provided by the high school, technical schools or community colleges; on-the-job training occurs at a worksite. The goal is to provide students with advanced skill sets that meet specific employer needs. At the completion of the apprenticeship, employers have options to hire students who have been through their apprenticeship program full-time upon graduation and cover additional training and certification expenses.

To be eligible for an apprenticeship, a student must demonstrate commitment to a career pathway and have completed required core and technical coursework prior to applying to the apprenticeship program.

Students apply to the program in the fall of their junior year, and those accepted begin this paid on-the-job training later that fall. During the summer between junior and senior year and throughout senior year, students will continue in paid on-the-job training in addition to taking advanced technical coursework. Throughout the program, students will receive increases in pay and tuition-free college credits and industry certifications.

Timeline

Applications are due in early fall of junior year. After the application deadline, students will be asked to an interview, and then an offer may be extended.

Funding Model

Students do not have to pay a fee to participate in the program. The apprenticeships are paid, with the employer covering the hourly wage paid to the student.

III. Mentorships

Mentorships are a model by which District 214 students can learn from and interact with experienced professionals in career pathways of interest. These mentorships benefit our students by providing them with real-world connections to career areas of interest to determine if it's a pathway they want to continue to pursue or allows them the opportunity to seek guidance on projects or research as they prepare for their own future.

District 214 offers a combination of traditional in-person mentorships and virtual mentorships.

In-person mentorships have been in place for many years in the district in the form of internships, micro-internships, classroom speaking engagements and various other workplace learning experiences.

District 214 is excited to now begin offering virtual mentorships as well. Virtual mentors engage with

students through District 214's Mentor Matching Engine (MME) by providing feedback to students on their college and career plans and by sharing insight into the world of work they took along their own career pathways. Virtual mentors can also engage with students through the MME to provide online support on a variety of design and research projects.

Timeline

The virtual mentorship program was launched in December of 2018; mentors are continually joining the team. Teachers have begun identifying class projects and students that would benefit from mentorship.

Funding Model

Neither students nor mentors pay a fee to participate in the program. The mentorship program is a partnership between the school district and local businesses and professionals both in the community and across the country.

Genesys Works

Program Summary

Genesys Works is one of the nation's premier high school internship programs, solving the biggest problem of tomorrow's workforce needs; too many students in underserved communities graduate high school without the skills, experience, and exposure needed to succeed in college and a career, leaving a lot of potential untapped and jobs unfilled. Closing these skills and opportunity gaps is an urgent economic and social imperative.

By giving students in underserved communities the opportunity to succeed in a professional work environment while still in high school, we can open up career possibilities and pathways previously thought unattainable.

Genesys Works was founded in Houston in 2002 and has since expanded to serve the students and companies of the Twin Cities, Chicago, the Bay Area, the DC Area, and most recently in New York City.

Timeline

Genesys Works is a 14-month program beginning the summer before senior year of high school. Genesys Works Young Professionals go through eight weeks of intensive training in professional skills (business etiquette, professional communications, and more) and one of three technical tracks. The technical skills training is either in IT, Accounting & Finance, or Coding. Young Professionals that successfully complete the summer training are then placed in year-long, pre-professional internship taking place throughout students' senior year with students going to school in the morning, then working 20 hours per week in the afternoon on-site with one of Genesys Works' corporate partners. Genesys Works is a full-service program to our partners throughout the year to assist with student mentoring, professional development, all while providing students additional post-secondary support with college applications, financial aid, and other needed support.

The Genesys Works Alumni Program continues to provide services to students for six years after high school graduation.

Funding Model

As a national 501(c)(3) not-for-profit organization, Genesys Works relies on the phenomenal work of our students to sustain the program. Genesys Works is free for students to participate in, and after their training are working in value-added internships. Genesys Works then charges an hourly rate to corporate partners for the services students are providing. Students are eligible for class credit, and are also paid hourly for their work, allowing them to make up to \$13,000 their senior year of high school.



**Career
Development
Experiences**

Impact

The primary benefit of Genesys Works comes from students' higher rates of college enrollment and completion, and a greater ability to obtain meaningful employment given their internship experience. Almost all program participants enroll in college and they complete degree programs at much higher rates. Genesys Works sets students on the right path to achieve career success and economic self-sufficiency, generating substantial economic and social value for society.

By the numbers: 100% of participating students graduate high school; 94% enroll in college; 73% graduated or are still enrolled in college. The median earnings of employed alumni was \$45-50,000. In ~40 CPS schools. In 2018-2019, there were 209 students trained, 137 students hired, and 630 alumni served ([more here](#)).

Case Studies

Some of the partnerships highlighted include: [AT&T](#), [Medtronic](#), [Salesforce](#), and [PG&E](#).

CPS Early College STEM Schools Internships

Program Summary

The Early College STEM Schools (ECSS) connect high school, college, and the workplace to prepare students for technology jobs of the future. These dynamic partnerships allow students to work with leading professionals, acquire industry certifications, and earn significant college credit while completing a rigorous high school program. Together, CPS, colleges, and corporate partners are pioneering a new vision for college and career readiness.



**Career
Development
Experiences**

Students (juniors and seniors) sign up to be considered for STEM internships offered during the summer. This program is only open to students that attend an Early College STEM school (currently there are 8 of these schools). Eighty-five percent of internships are tech-focused. Students who apply to these internships already have IT experience, generally from classes and activities at school.

Internships fall into one of seven categories: Networking, Sales/ Marketing, Computer Programming/ Web Development, Tech Program Assistant, Tech Startup, Tech Support, General Program Assistant. Some companies that host interns include: CISCO, Loma Solutions, the EPA, BLUE 1647, Chicago Public Schools, Chicago Police Department, and Chicagoland Chamber of Commerce. Students can apply to up to 3 opportunities and are either matched based on skill set or participate in an interview process,

depending on employer requirements. CPS also offers a wide array of functional area internships through it's

Career and Technical Education program.

Timeline

Students submit a resume to apply in early April, they get interviewed that same month. In addition to a resume, students must also submit an evaluation from an IT teacher. If selected, students complete their internship during the summer.

Funding Model

This program is funded by grants and CPS. Corporations can also sponsor students.

Impact

Approximately 75 students per year take part in ECSS internships.

Case Studies

ECSS has a [video](#) where students talk about their experiences completing an internship.

Everyone Can Code/One Summer Chicago

Program Summary

Technology has a language. It's called code. Learning to code teaches you how to solve problems and work together in creative ways. Apple designed the Everyone Can Code program to enable anyone to learn, write, and teach code. In Chicago, the company has convened a group of civic, business, policy, and education leaders to bring coding, entrepreneurship, and mobile skills to Chicago Public Schools and City Colleges of Chicago students through this unique training and internship program.



**Career
Development
Experiences**

Apple provides a range of free resources that take students from exploring basic coding concepts to building fully functional apps of their own design. The Everyone Can Code program is aligned with core computer science themes covered in the Chicago Public Schools Curriculum Guide and are mapped to the relevant CSTA and ISTE standards. The curriculum includes teacher guides and lessons that let educators introduce coding concepts so whether students are first-time coders or aspiring app developers, educators have all the tools they need to teach coding in the classroom or in an after-school club.

CPS supports after school clubs called Swift Coding Clubs, where students work on completing the program. There are three levels of curriculum: Grades 3-5 uses Tynker and Code Spark, Grades 6-8 uses Swift Playgrounds, and Grades 9-12 App Design Activities in Xcode. This includes App Design Activities, where students identify a problem to solve and then brainstorm, plan, prototype, and evaluate an original app project, then create an app pitch video to showcase the app idea in school or in the community. Students learn coding concepts and relate them to everyday situations, then apply the concepts. Students can extend their learning with additional coding challenges and with robots, drones and other bluetooth accessories.

After they complete the program, students can access a variety of volunteer and internship opportunities, which Apple helps to facilitate with other partners. Additionally, students who have completed the program can apply to special internships through One Summer Chicago, 1871, and other Chicago businesses. There are over 100 internships of this kind.

Timeline

Students join the Swift Coding Club at their school (either as part of a course or after school club) or through a community-based organization and work through the program during the year. In addition, many high schools have started teaching App Development with Swift as part of their curriculum. After the completion of the program, students are eligible to apply to a variety of internship opportunities, all of which have varying deadlines. Some of these take place during the year and can last up to 10 months.

The interview process takes place from May-June. Offers should be given by June through One Summer Chicago with acceptance and start time around July 5th for a 6-week summer internship.

Funding Model

All of the curricular items tied to Everyone Can Code are free. One Summer Chicago is partly supported by the city and partly supported by corporate partners. Various models exist, including \$2,000 per student for summer internships.

Impact

The first year of the program (2018) 41 students were placed in internships across 19 cross-sector companies. 200 students were placed in a learn and earn Swift training program via One Summer Chicago. One Summer Chicago has 10 program sites throughout Chicago where students can go to complete the program. There is a showcase at the end of the program where students can demonstrate their projects. Of the students that were part of the One Summer Chicago Swift summer training program 67.7% were interested in coding or app development (compared to 56.7% prior to internship) and 96.7% would recommend the program to a friend.

Aside from providing students with internships and support throughout the program, students are recognized for their skills, training completed, and strong work ethic.

Case Studies

Intern #1: 18YO Female, Hispanic, West Lawn: Currently a college freshman at the University of Illinois, she held an internship at the Chicago Portfolio School, the Ascend Training Program and Digital Bootcamp. As her mobility project, she developed an app to facilitate the lives of the people in the Ascend Training program. The app gave trainees easy access to lunch spots, parking spaces, directions. There were plans to also implement a feedback page, with a survey about the Ascend Training program to help better the program.

Intern #2: 17YO Female, Multi-racial, Belmont Cragin: Interned at Dow Chemical where she worked on augmented reality which displays Dow Chemical's products. Using 3D printed models of the buildings and augmented reality tools including Unity and Vuforia, the app is able to detect the building through the device's camera and demonstrates the importance and use of the company's products within the building. The app is used to make it easier for contractors to sell Dow products to potential clients or for online advertising reasons which can teach others about the company's products.

Intern #3: 17YO Male, Hispanic, West Elsdon: While interning at Rush University Medical Center, he worked on an app that would help the homeless by keeping track of health and provide assistance in their daily lives. The app assists doctors, staff, and the residents at the Franciscan house in their everyday lives. Doctors would have a calendar to see the appointments they have scheduled for the residents, and they would have the face scanning to bring up the patient's medical information. Staff would have a feature to keep track of the beds that are taken and the ones that are available. They would also have a feature to keep track of the beds that are taken and the ones that are available. The residents would be able to see the bed availability, a menu for the day's food, and have a button for services that would help them in their personal lives. The services provided are shelter locations, their doctor appointments, a job finder and a feature to find housing programs.

State Farm IT Cohort and Internship Program

Program Summary

Headquartered in Bloomington, Illinois, State Farm and its affiliates are the largest providers of auto and home insurance in the United States. State Farm's nearly 19,000 agents and approximately 65,000 employees serve approximately 83 million policies and accounts – approximately 81 million auto, fire, life, health and commercial policies and approximately 2 million bank accounts.

The company has been particularly intentional about growing a pipeline of talent in partnership with area school districts to help address its workforce needs within IT and across the enterprise. This includes a partnership with McLean County Unit #5 School District and Heartland Community College (HCC) on their IT Cohort Program as part of a dual-credit Associates Degree Program.

This application-based program allows students to pursue an Associate's Degree in Computer Science through HCC while still in high school. Students begin the process of applying to the four-year program in 8th grade and follow a sequence through high school as a cohort that includes a schedule of traditional high school classes, HCC Dual Credit courses taken at the high school, as well as college courses taken at the Heartland campus, and direct engagement with State Farm employees. This includes working with a State Farm mentor to gain real-world industry experience, site visits to the company to explore the field of computer science, and consideration for summer internships to apply the knowledge and skills gained through coursework.

In addition, the company takes on high school interns throughout the year (those from the IT Cohort as well as others) through its Internship Program. Students have the opportunity to work across a variety of IT-related departments, including information security and innovation labs. Students apply to participate and must be 16 by the time the internship starts.

Timeline

The summer internship runs from early June through early August and students work full-time (M-F). Students can extend their internship throughout the year (fall and spring), where they work no more than 15 hours/week.

Funding Model

State Farm pays interns a competitive hourly rate.

Impact

The IT Cohort Program started in the 2017-18 school year with around 20 students. In 2018-19, there were 12 sophomores and 43 freshman participating. The company typically takes on 30 high school interns over the summer and 6-7 interns during the year.

Case Studies

Interns are assigned to Enterprise Technology host managers and are provided real hands-on work opportunities.



**Career
Development
Experiences**

Lumity Student Enterprise Program

Program Summary

Lumity is a non-profit organization providing teens and young adults in underserved communities with transformational experiences to prepare them for lifelong STEM careers. Lumity's programs aim to teach and strengthen students' critical thinking and problem-solving skills, ability to work in a team and effectively collaborate, and teach valuable presentation skills.

Lumity's suite of programs includes the Student-Based Enterprise (SBE), an application-based program where students get hands-on training to be part of a "company" providing technology needs assessments and website development for local small businesses. This program is implemented during the school year for a class of students.

Along with lessons delivered by Lumity staff, the SBE program is supported by volunteers from our corporate partners. These volunteers come into the classroom to advise, guide and mentor the students throughout the program. Past volunteers have come from Slalom and Accenture.

Timeline

Lumity programs run for varying lengths throughout the year, including summer programs, and currently serve four high schools: Amundsen High School, Chicago Vocational Career Academy, Von Steuben and Waukegan High School

Funding Model

The SBE has restricted funding from Bank of America and is supported through private and philanthropic funders.

Impact

The SBE reaches a class of students each year teaching entrepreneur skills, application of coursework knowledge to real world projects, strengthen students' critical thinking and problem-solving skills, teamwork and presentation skills.



**Career
Development
Experiences**

Effingham CEO Program—Midland Institute for Entrepreneurship

Program Summary

Effingham Creating Entrepreneurial Opportunities (CEO) program goal is to provide a comprehensive educational experience for Effingham County high school students, equipping them to be enterprising individuals and entrepreneurial thinkers who contribute to the economic development of Effingham County.

The CEO class meets Monday through Friday, 7:30 AM—9:00 AM and is a year-long, two credit high school course with pending college dual accreditation.

The class meets in local businesses and changes location every nine weeks. In addition to providing a professional business setting for the class, the various locations help students from multiple school districts establish a common identity based on their CEO experience. The class is offered to high school juniors and seniors throughout Effingham County.

The student selection process begins with a recommendation from the school and a written request for admission. Student applicants then submit letters of recommendation and complete an entrepreneurial profile. Grades are not the defining admission standard.

Projects include problem solving and writing business plans. Students visit 30-50 different sites and hear from 30-40 speakers during the year. During class time, students have site visits of local businesses, hear from speakers and connect with mentors. Students also receive one-on-one mentoring during that time of the year.

At the end of the program, students work on their showcase project which usually takes the form of a company that the student founded. The project can be conceptual, and having a company idea is not a requirement before entering the class. However, students must have a business and operations plan. The program culminates with an annual trade show which gives students the opportunity to present their projects.

The classes are run by the CEO board. The board is made up by representatives from the education, business and community representatives.

Timeline

It is a year-long, two-credit high school course. Classes meet everyday for 90 minutes, typically during the morning. The program culminates in a showcase where students present their final projects.

Funding Model

Funding comes from Business Partners, the Effingham Community Foundation, and student projects.



**Career
Development
Experiences**

Impact

Through the CEO program, students are immersed in real life learning experiences with the opportunity to take risks, manage the results, and learn from the outcomes. To date, there have been 282 total CEO Students and 98 total CEO Investors. For the 2019-2020 school year, the program will have grown to 51 “CEO communities” in Illinois, Indiana, Minnesota, Colorado, and Alabama - reaching 2251 students in 202 schools.

Case Studies

One notable student example is Justin Wiggins, who founded Wiggins Computing, an IT solutions company. Since he graduated in 2017, his company has grown, and now provides server rack, security, and logistic solutions to a variety of companies nationwide. Justin had been learning IT skills, but the CEO class taught him how to turn his skills into a viable company ([more here](#)).

About the Illinois Science & Technology Institute



The Illinois Science & Technology Institute (ISTI) is a statewide, STEM-education focused nonprofit that provides programs and partnerships to connect companies and universities with classrooms. ISTI supports schools and companies that want to impact the next generation of innovators to build a deeper and more inclusive talent pipeline. We are a bridge between the classroom and the real-world that facilitates collaboration between students and industry mentors.

For more information, visit www.istcoalition.org/education and follow us on twitter, [@istcoalition](https://twitter.com/istcoalition).

PWR

POSTSECONDARY & WORKFORCE READINESS ACT

College & Career Pathway Endorsements

