Accelerated Model Pathways for Information Technology Blueprint

Developed as part of Accelerate ED, an initiative of the Bill & Melinda Gates Foundation

Vision Statement

Broad Illinois Pathways Context

The 2016 [Postsecondary and Workforce Readiness Act](#) defined the Illinois College and Career Pathway Endorsement (CCPE) system:

- Requires an individualized learning plan, career-focused instruction including at least 6 hours of early college credit, career exploration activities, and 60 hours of internships or similar experiences.

- All districts serving grades 9–12 are required to implement CCPE or formally opt out by 2025

- Currently, 180+ school districts are seeking to implement CCPE, largely implementing education, health sciences, and manufacturing pathways

→ IT pathways need a jumpstart to reach scale aligned to employer need

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AMP-IT Vision

Through Accelerated Model Pathways in IT (AMP-IT), IT pathway students gain access to the skills and credentials needed to build confidence and be accelerated towards living-wage careers. This includes:

- Earning up to 30 hours of early college credit in high school, including a robust number of career-focused courses in IT in addition to general education courses;

- Supported transition into aligned postsecondary programs at Community College or University

- Earning an associate degree or an additional 30 credit hours toward an IT degree in year 13; and

- Taking part in a continuum of meaningful work-based learning opportunities to help affirm interest in the industry and gain valuable hands-on experiences and soft skills while earning social capital with industry employers

Where is AMP-IT?
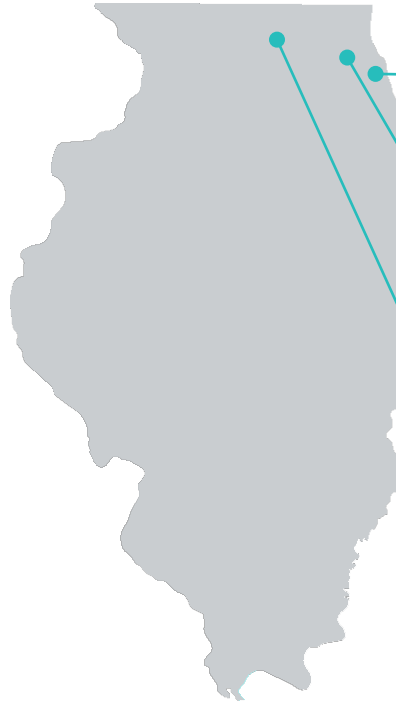
Chicago Public Schools:
322,106 students (grades PK–12):
Largest IL district; 4th largest in US

District 214 (Suburban Cook County):
11,395 students (grades 9–12):
Largest high school-only district in IL

Belvidere D100:
7,457 students (grades PK–12)

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Target Population

To support diversification of the IT, each AMP-IT district has identified target populations at the cross-section of underrepresentation in IT and their district goals for college attainment.

- **Chicago Public Schools**: Black and Latinx men

- **District 214**: English language learners, diverse learners, low-income students, and women

- **Belvidere D100**: Women

Goals

Broader Illinois Pathway Goals

EdSystems' goals for pathways students in Illinois for partner districts implementing pathways (AMP-IT and non-AMP-IT partners) include:

- Supporting students to:
  - Earn the [College and Career Pathway Endorsement](#)
  - Attain 15+ early college credit hours by high school graduation, 6+ of which are in career-focused area
  - Enroll in a postsecondary program and complete an associate degree by year 14 or be on track to a bachelor's degree
- Creating an infrastructure of engaged partners working on transfers and work-based learning
- Piloting longitudinal data tracking for pathway metrics

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To reach our goals, EdSystems identified 3 pathway tiers:

1. Accelerate ED Pathway

30+ credit hours by HS graduation	IL work-based learning	30+ credits/associate
- *6-12 in career focus area*	continuum	degree by 13th year
- *18-24+ in general education*		

2. Illinois Model Pathway

15+ credit hours by HS graduation	IL work-based learning	Early college in key gateway and
- *6-9+ in career focus area*	continuum	major specific courses & avoid
- *Additional in general education*		postsecondary remediation

3. Illinois College and Career Pathway Endorsement

6+ credit hours in career focus area by HS graduation	IL work-based learning continuum	Avoid postsecondary remediation

AMP-IT Schools: Launching in 19 Schools

Chicago Public Schools

- Tier 2 IT Pathways are currently being developed at 10 schools
- Schools are provided with annual funding to support work-based learning, textbooks, and teacher training

District 214

- A Tier 2 IT pathway is currently available to students at all 6 comprehensive high schools and 1 alternative school,
- Students begin with a year-long Freshmen Orientation Seminar to learn about industries, set goals, and support career and course selections

Belvidere D100

- 2 comprehensive highs schools currently offer Tier 3 IT pathways, primarily Networking
- The "Running Start" dual enrollment program supports a small cohort of students to earn an associate degree by graduation; this can be modified into a Tier 1 pathway

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AMP-IT Student Outcome Goals

What impact do we aspire to achieve?

		SY23–24: All AMP-IT Students	SY23–24: Target Population	SY27–28: All Students	SY27–28: Target Population
Scale	How many graduates will successfully complete an AMP-IT pathway?	315	128	412	172
Postsecondary Transition	Of AMP-IT graduates, what percentage will enroll in an Illinois college or university and continue an additional 30 credit hours towards in IT degree? (Estimate)	45%	44%	50%	50%
College Impact	Scale * PS Transition= Impact	143	57	206	86

Aspirational Data Tracking

What data do we aspire to access?		Justification
Tracking Goal	Of AMP-IT graduates, how many enroll in a 2-year college and complete an additional 30 credit hours or an Associate's Degree by the end of the 13th year?	Broadens our understanding of postsecondary plans from just AMP IT graduates at partner colleges to all colleges.
Tracking Goal	Of AMP-IT graduates, how many will enroll in a 4-year college and complete an additional 30 credit hours by year 13?	Broadens our understanding of postsecondary plans from just AMP IT graduates at partner colleges to all colleges.
Tracking Goal	Of AMP-IT graduates, how many enroll in a postsecondary IT program at an Illinois institution?	Allows us to understand what % of students persist in the IT field
Tracking Goal	Of AMP =IT graduates, how many earn a degree at in an IT program at an Illinois institution?	Allows us to understand what % of students persist in the IT field

Proximate Voices

Responding to Youth Voice

Themes we heard…

Students' academic decisions and persistence are influenced by a number of trusted parties, including teachers, friends, family, & counselors

Exposure to career and drawing explicit connections between coursework and career impact students' interests and decision-making

Students consider personal interest, such as future career, income, and benefits, when selecting courses and extra-curriculars

How this shaped our design thinking…

Creating targeted training and marketing outreach for each of the stakeholder groups

Strengthening the transition from HS to postsecondary, including access to program alumni and creation of a HS/College Advising team

Integration of meaningful work-based learning into the model

Outreach, including career access, to middle school students

Connection to program alumni who demonstrate value of program for future coursework and career

Creation of a program whose credentials provide a living wage career at multiple exit points

Explicit description of future earnings and benefits in marketing materials

Program Design

NE Illinois IT Pathway: Demand Occupations and Credentials

	Program	Typical Credentials Available at Partner Community College [1]	Typical Job	Near or Above Living Wage Threshold for 1 Adult + 1 Child [2]	Median Hourly Wage [3]	Chicagoland Growth: Annual Job Openings [4]	Chicagoland Growth: % Change Over 10 yrs [4]	Stackable?
1	Software Development	Software Developement AAS (CCC) Information Systems AAS (HC) Computer & Information Systems AAS (RVC)	Software Developers (Applications + Systems Software)	Y	$50.75	3491	11.5%	Yes. Career Typically Requires Bachelor's Degree
2	Guided Transfer	Computer Science, AS (CCC, HC) Computers & Information Systems, AAS (RVC) Information Systems AA (RVC)	Computer and Information Systems Manager	Y	$76.06	743	3.3%	Yes. Career Typically Requires Bachelor's Degree
		Computer Science, AS/AA (CCC, HC, RVC)	Computer and Information Research Scientist	Y	$59.85	43	16.5%	
3	Web Development	Web Development, AAS (CCC) Web Development, AS (CCC) Web Design & Development AAS (HC) Web Programming & Design AAS (RVC)	Web Developers	Y	37.86	409	5.5%	Can stack to Bachelor's Program
4	Networking, Cloud Computing and Cybersecurity	IT Computer Support AAS (HC) Computers & Information Systems, AAS (RVC)	Computer User Support Specialist	N	24.08	1779	4.1%	Yes, to other Associate Degree or Certificate Programs
		Networking Systems & Technology AAS (CCC) IT Networking Administration AAS (HC) Cisco Networking AAS (RVC)	Computer Network Support Specialists	Y	35.82	661	0.6%	Typically Stacks to Bachelor's Program
		Networking Systems & Technology AAS (CCC) Computers & Information Systems, AAS (RVC) Information Systems AAS (HC)	Computer Systems Analyst	Y	40.47	1708	1.4%	Yes. Career Typically Requires Bachelor's Degree
		Cybersecuirty AAS (CCC) IT Security Specialist, AAS (MVCC) Data Assurance & IT Security AAS (RVC)	Information Security Analysts	Y	49.15	308	20.5%	

[1] CCC = City Colleges of Chicago (Chicago partner), HC = Harper College (Greater Cook partner), RVC = Rock Valley College (Belvidere partner), MVCC = Moraine Valley Community College (Greater Cook partner)

[2] Living wage calculations are based on MIT's Living Calculator (livingwage.mit.edu), where the "Living Wage" for 1 Adult + 1 Child is defined as $35.20/hour for the Chicago-Naperville-Elgin MSA. "Near" is defined as 75% of the statewide living wage, which is $26.4/hour

[3] U.S. Department of Labor, CareerOnestop (careeronestop.org/explorecareers), Chicago-Naperville-Elgin MSA

[4] Illinois Department of Employment Security, Employment Projections, Economic Development Regions, long-term (2018-2028). EDR 4

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Course Sequence Strategy

- Recommend early college course sequence reasonably accessible to high school students
  - *Goal: 6+ career-focused credit hours, 30 credit hours total by graduation*

- Remove barriers and create enabling conditions for work-based learning, capstone projects

- Consider typical teacher and faculty credentials, as well as course delivery and approval processes

- Recommend courses in general education subject areas, including early college and AP alternatives

- Pay close attention to college-level placement requirements in English and math

Chicago Public Schools Coursework Map

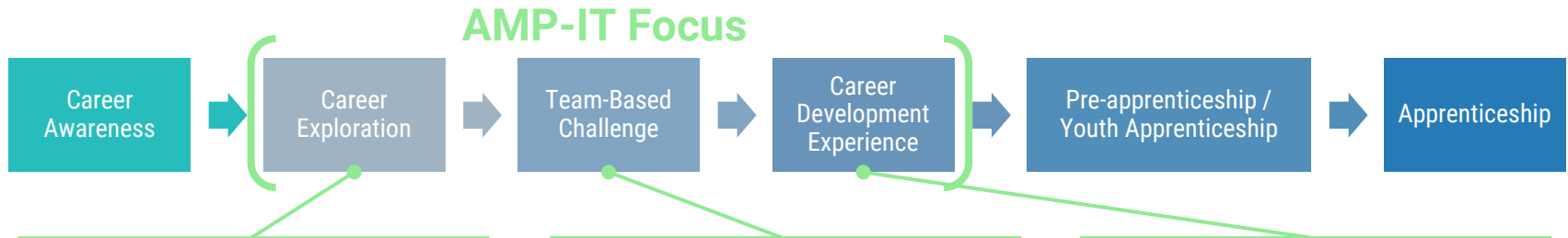| Subject	Pathway/Track	Intro Courses	Intermediary Courses	Advanced/Capstone Courses
Career-Focused	*Pathway 1: Programming*	CIS 101: Intro to Computer Science *or* AP Computer Science Principles	CIS 103: Fundamentals of Programming	CIS 142: C++ Object Oriented Programming I *or* CIS 144: Java Object Oriented Programming I *or* CIS 245: Principles of Software Development
	Pathway 2: Web Development		CIS 181: Web Development I	CIS 182: Web Development II *or* CIS 103: Fundamentals of Programming *or* CIS 113: Human Computer Interaction
	Pathway 3: Networking / Cybersecurity		CIS 116: Operating Systems I	Compsfi 101: Networking Essentials *or* CIS 255: Operating Systems II *or* Compsfi 102: Networking Essentials II
Math	*Pathway 1:*		Math 140: College Algebra & Math 141: Plane Trigonometry *or* Math 143: Pre-Calculus	Math 207: Calculus and Analytic Geometry I
	Pathway 2 & 3		Math 125: Statistics	Math 140: College Algebra
English			English 101 & 102	Speech 101
General Education			Psych 201: General Psychology Afro AM 101: Intro to Afro-American Studies Bio 121: Biology I	SOC 201: Intro to the Study of Society Art 103: Art Appreciation Chem 121: Basic Chemistry I

District 214 Coursework Map

Subject	Intro Courses	Intermediary Courses	Advanced/Capstone Courses
Career-Focused	Computer Programming Mobile App Development and Networking	NET 105: College IT Fundamentals NET 112: College A+ Hardware NET 111: College A+ Operating Systems NET 121: College Computer Networking	LAN 153: College Advanced Network Systems and Cybersecurity
Math		MAT 1271: College Algebra *or* AP Calc BC *or* MAT 2550G: College Statistics *or* MAT 1160G: College Math: A Human End	
English		ENG 1001G: College Composition CMN 1310G: College Speech	
General Education		AP Human Geography AP US History / AP US Government AP Biology / AP Environmental Science WLS2201G/WLS2202G: College Spanish ECN2802G: College Microeconomics / ECN2801G: College Macroeconomics	

Belvidere D100 Coursework Map

Subject	Intro Courses	Intermediary Courses	Advanced/Capstone Courses
Career-Focused	CIS 102: Computer Application Intro to Computer Systems (Articulated Credit)	Intro to Networking and Coding PCT 262: A+ Essentials (Articulated Credit)	Advanced Computer Networking PCT 270: Intro to UNIX/Linux & PCT 110: Network Essentials
Math		MTH 220: Elements of Statistics MTH 135: Calculus I	
English		ENG 101: Composition ENG 103: Composition II SPH 131 : Fundamentals of Communication	
General Education		STU 100: Planning for Success BIO 103 & 104: Intro Life Science & Lab BIO 106 & 107: Environmental Biology & Lab ECO 101: Intro to Economics *or* ECO 110: Principles of Economics: Macro *or* ECO 111: Principles of Economics: Micro HST 142: History of US to 1865 HST 143: History of US Since 1865	

Illinois Work-Based Learning Continuum

AMP-IT Focus

Career Awareness → Career Exploration → Team-Based Challenge → Career Development Experience → Pre-apprenticeship / Youth Apprenticeship → Apprenticeship

An activity such as a job shadow, attendance at a career exposition, or employer site visit providing an individual with the ability to **engage directly with employers**, for the purpose of **gaining knowledge of one or more industry sectors or occupations**.

Best practice to embed this activity into existing courses.

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.

Best practice to embed this activity into existing courses.

A supervised work experience that **occurs in a workplace** or under authentic working conditions; is **co-developed** by an education provider and at least one employer; **provides compensation** or educational credit; reinforces **foundational professional skills**; includes an **assessment** of skill development that is utilized as a participant feedback tool; and is **60+ hours**. (aka internship).

See full definitions: *Illinois Career Pathways Dictionary*

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Program Recruitment , Access & Equity

Increased connections with middle schools and middle school students:

- Increased high school program exposure, including **spotlight days**

- Earlier, targeted **parent awareness campaign** on early college opportunities

Staffing supports:

- **Success coaches**: Connect students with work-based learning opportunities

- **Pathway managers**: School or district staff dedicated to mapping pathways and supporting students through course selection and persistence

Program Recruitment , Access & Equity

Improved and connected advising structures:

- **Joint high school and community college advising teams**: Partner college and school advisers providing seamless advising to support student transitions

- **School staff pathway awareness training**: Ensuring that any trusted staff member is armed with crucial pathway information to support student persistence and decision-making

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Postsecondary Transition

- Students in IL currently earning a high volume of credits (1 semester to associate degree) frequently select a university post-high school (especially true of IT pathways)

- Target regions have affordable community college degree access programs in place (e.g. "promise" programs, "Running Start")

As a result...

- AMP-IT won't limit students to their community college partner

- Long-term goal is to create accelerated and incentivized transition to any state university in IL and/or local community college

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