Accelerated Model Pathways for Information Technology Blueprint

Developed as part of Accelerate ED, an initiative of the Bill & Melinda Gates Foundation
Vision Statement
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.
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)
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
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
To reach our goals, EdSystems identified 3 pathway tiers:

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

2. **Illinois Model Pathway**
   - 15+ credit hours by HS graduation
   - 6-9+ in career focus area
   - Additional in general education
   - IL work-based learning continuum
   - Early college in key gateway and major specific courses & avoid 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
### AMP-IT Student Outcome Goals

**What impact do we aspire to achieve?**

<table>
<thead>
<tr>
<th>Scale</th>
<th>How many graduates will successfully complete an AMP-IT pathway?</th>
<th>SY23–24: All AMP-IT Students</th>
<th>SY23–24: Target Population</th>
<th>SY27–28: All Students</th>
<th>SY27–28: Target Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>315</td>
<td>128</td>
<td>412</td>
<td>172</td>
</tr>
</tbody>
</table>

| 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                        |

*PS Transition= Impact
## Aspirational Data Tracking

<table>
<thead>
<tr>
<th>Tracking Goal</th>
<th>What data do we aspire to access?</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>Broadens our understanding of postsecondary plans from just AMP IT graduates at partner colleges to all colleges.</td>
<td></td>
</tr>
<tr>
<td>Of AMP-IT graduates, how many will enroll in a 4-year college and complete an additional 30 credit hours by year 13?</td>
<td>Broadens our understanding of postsecondary plans from just AMP IT graduates at partner colleges to all colleges.</td>
<td></td>
</tr>
<tr>
<td>Of AMP-IT graduates, how many enroll in a postsecondary IT program at an Illinois institution?</td>
<td>Allows us to understand what % of students persist in the IT field</td>
<td></td>
</tr>
<tr>
<td>Of AMP-IT graduates, how many earn a degree at in an IT program at an Illinois institution?</td>
<td>Allows us to understand what % of students persist in the IT field</td>
<td></td>
</tr>
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</table>
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

<table>
<thead>
<tr>
<th>Program</th>
<th>Typical Credentials Available at Partner Community College</th>
<th>Typical Job</th>
<th>Near or Above Living Wage Threshold for 1 Adult + 1 Child</th>
<th>Median Hourly Wage</th>
<th>Chicagoland Growth: Annual Job Openings</th>
<th>Chicagoland Growth: % Change Over 10 yrs</th>
<th>Stackable?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Software Development</td>
<td>Software Development AAS (CCC) Information Systems AAS (HC) Computer &amp; Information Systems AAS (RVC)</td>
<td>Software Developers (Applications + Systems Software)</td>
<td>Y</td>
<td>$50.75</td>
<td>3491</td>
<td>11.5%</td>
<td>Yes, Career Typically Requires Bachelor’s Degree</td>
</tr>
<tr>
<td>2 Guided Transfer</td>
<td>Computer Science, AS (CCC, HC) Computers &amp; Information Systems, AAS (RVC) Information Systems AA (RVC)</td>
<td>Computer and Information Systems Manager</td>
<td>Y</td>
<td>$76.06</td>
<td>743</td>
<td>3.3%</td>
<td>Yes, Career Typically Requires Bachelor’s Degree</td>
</tr>
<tr>
<td></td>
<td>Networking Systems &amp; Technology AAS (CCC) Computers &amp; Information Systems, AAS (RVC) Information Systems AAS (HC)</td>
<td>Computer Network Support Specialists</td>
<td>Y</td>
<td>35.82</td>
<td>661</td>
<td>0.6%</td>
<td>Typically Stacks to Bachelor’s Program</td>
</tr>
<tr>
<td></td>
<td>Networking Systems &amp; Technology AAS (CCC) Computers &amp; Information Systems, AAS (RVC) Information Systems AAS (HC)</td>
<td>Computer Systems Analyst</td>
<td>Y</td>
<td>40.47</td>
<td>1708</td>
<td>1.4%</td>
<td>Yes, Career Typically Requires Bachelor’s Degree</td>
</tr>
<tr>
<td></td>
<td>Cybersecurity AAS (CCC) IT Security Specialist, AAS (MVCC) Data Assurance &amp; IT Security AAS (RVC)</td>
<td>Information Security Analysts</td>
<td>Y</td>
<td>49.15</td>
<td>308</td>
<td>20.5%</td>
<td></td>
</tr>
</tbody>
</table>

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
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

<table>
<thead>
<tr>
<th>Subject</th>
<th>Pathway/Track</th>
<th>Intro Courses</th>
<th>Intermediary Courses</th>
<th>Advanced/Capstone Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career-Focused</td>
<td><em>Pathway 1: Programming</em></td>
<td>CIS 101: Intro to Computer Science or AP Computer Science Principles</td>
<td>CIS 103: Fundamentals of Programming</td>
<td>CIS 142: C++ Object Oriented Programming I or CIS 144: Java Object Oriented Programming I or CIS 245: Principles of Software Development</td>
</tr>
<tr>
<td>Math</td>
<td><em>Pathway 1:</em></td>
<td></td>
<td>Math 140: College Algebra &amp; Math 141: Plane Trigonometry or Math 143: Pre-Calculus</td>
<td>Math 207: Calculus and Analytic Geometry I</td>
</tr>
<tr>
<td></td>
<td><em>Pathway 2 &amp; 3:</em></td>
<td></td>
<td>Math 125: Statistics</td>
<td>Math 140: College Algebra</td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td>English 101 &amp; 102</td>
<td>Speech 101</td>
</tr>
<tr>
<td>General Education</td>
<td></td>
<td></td>
<td>Psych 201: General Psychology Afro AM 101: Intro to Afro-American Studies Bio 121: Biology I</td>
<td>SOC 201: Intro to the Study of Society Art 103: Art Appreciation Chem 121: Basic Chemistry I</td>
</tr>
<tr>
<td>Subject</td>
<td>Intro Courses</td>
<td>Intermediary Courses</td>
<td>Advanced/Capstone Courses</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------------------------------------------</td>
<td>-----------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>
| 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

<table>
<thead>
<tr>
<th>Subject</th>
<th>Intro Courses</th>
<th>Intermediary Courses</th>
<th>Advanced/Capstone Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career-Focused</td>
<td><strong>CIS 102: Computer Application</strong> <strong>Intro to Computer Systems</strong> <em>(Articulated Credit)</em></td>
<td><strong>Intro to Networking and Coding</strong> <strong>PCT 262: A+ Essentials</strong> <em>(Articulated Credit)</em></td>
<td><strong>Advanced Computer Networking</strong> <strong>PCT 270: Intro to UNIX/Linux &amp; PCT 110: Network Essentials</strong></td>
</tr>
<tr>
<td>Math</td>
<td></td>
<td><strong>MTH 220: Elements of Statistics</strong> <strong>MTH 135: Calculus I</strong></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
<td><strong>ENG 101: Composition</strong> <strong>ENG 103: Composition II</strong> <strong>SPH 131: Fundamentals of Communication</strong></td>
<td></td>
</tr>
</tbody>
</table>
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
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
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