Postsecondary & Workforce Readiness Act

Statewide Public-Private Steering Committees for

College and Career Pathway Endorsements

Recommended Technical and Essential Employability Competencies

July 2018

Background

The competencies set forth in this document were developed through an iterative process involving public-private steering committees established pursuant to the Postsecondary and Workforce Readiness (PWR) Act in order to implement College and Career Pathway Endorsements.

The competencies have been reviewed and recommended for approval by the Workforce Readiness through Apprenticeships and Pathways Steering Committee of the Governor's Cabinet on Children and Youth, but they remain subject to further review and modification by State agencies. This process has been led by a partnership between Education Systems Center at NIU and JFF with generous support from JPMorgan Chase & Co.

About JFF

JFF is a national nonprofit that drives transformation in the American workforce and education systems. For 35 years, JFF has led the way in designing innovative and scalable solutions that create access to economic advancement for all.

JFF's Pathways to Prosperity Initiative develops, implements, and scales systems of college and career pathways to expand economic opportunity for all young people and meet state and regional talent needs. This forward-looking approach depends on strong cross-sector partnerships and mobilizes K–12 and postsecondary education leaders, policymakers, and employers, bringing together diverse stakeholders to build a future that works. For more information, visit www.jff.org and www.ptopnetwork.org.

Education Systems Center
NORTHERN ILLINOIS UNIVERSITY

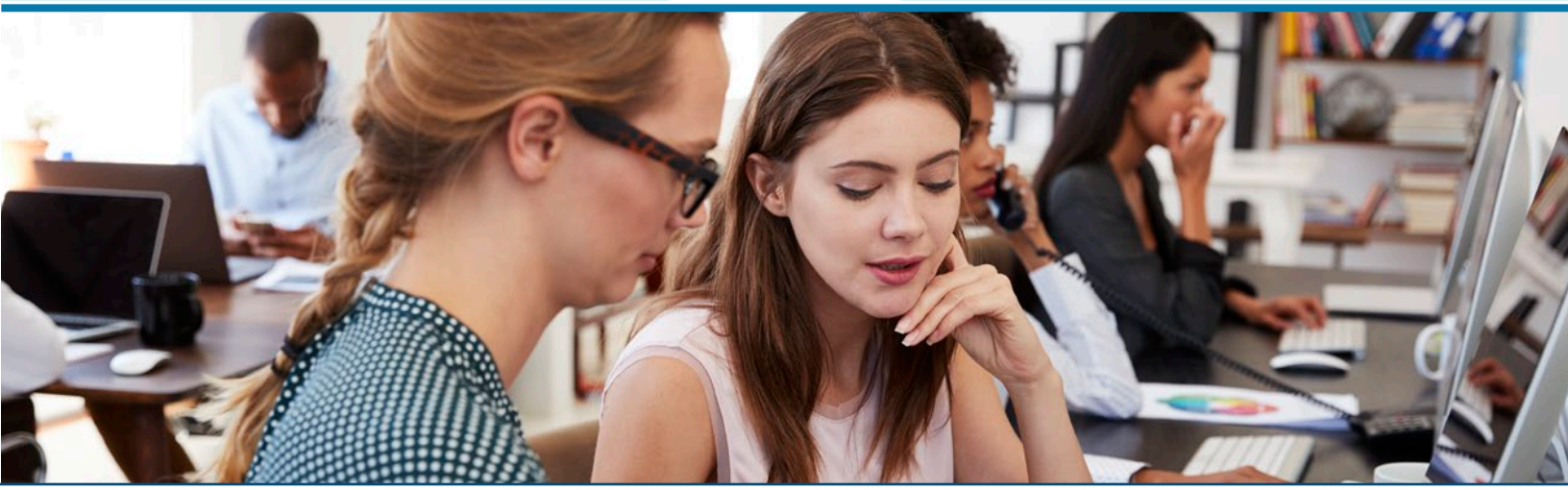
About Education Systems Center

Education Systems Center (EdSystems) shapes and strengthens education and workforce systems that prepare more young people for productive careers and lives in a global economy. EdSystems leads and manages the Illinois P-20 Council's College and Career Readiness Committee, which recently drove the development and adoption of the Postsecondary and Workforce Readiness Act (www.pwract.org). Learn more about EdSystems at www.edsystemsniu.org.

JPMorgan Chase & Co.

About JPMorgan Chase

JPMorgan Chase & Co. is a leading global financial services firm with assets of $2.6 trillion and operations worldwide. The firm is a leader in investment banking, financial services for consumers and small businesses, commercial banking, financial transaction processing and asset management. A component of the Dow Jones industrial average, JPMorgan Chase & Co. serves millions of customers in the United States and many of the world's most prominent corporate, institutional and government clients under its J.P. Morgan and Chase brands. Information about JPMorgan Chase & Co. is available at www.jpmorganchase.com.



July 2018

Introduction and Background

Enacted in 2016, the Postsecondary and Workforce Readiness (PWR) Act established a voluntary system for school districts to award College and Career Pathway Endorsements (CCPEs) to high school graduates. Endorsements signify that a student is ready to pursue postsecondary education or enter a career related to the CCPE industry area. Endorsements incentivize career exploration and development and are available in eight sector areas, including a multidisciplinary option.

Students earn CCPEs by completing an individualized learning plan, a career-focused instructional sequence, and professional learning (which includes career exploration activities, 60 hours of career development experiences, and two team-based challenges). Technical and professional competencies connected to CCPEs indicate that a student is equipped with the knowledge, skills, and abilities to advance to entry-level employment, college-level coursework, or advanced sector-based training in the endorsement sector area. School districts can apply to the Illinois State Board of Education to offer CCPEs during the 18-19 school year, and can start to award them to the graduating class of 2020.

College and Career Pathway Endorsements Indicate:
Completion of individualized learning plan
Career-focused instructional sequence: two years of coursework or equivalent competencies
Professional learning including career exploration activities, 60 hours of career development experiences, such as internships, two team-based challenges
Demonstration of readiness in reading and math for postsecondary education pathways courses

In consultation with state agencies and key industry experts including hiring professionals, education and training professionals, and industry associations, industry-based steering committees were formed to identify and propose technical and professional competencies in four initial sectors, selected due to their alignment with state economic development priorities:

- Health Sciences and Technology (HST)
- Information Technology (IT)
- Manufacturing, Engineering, Technology, and Trades (METT)
- Finance and Business Services (FBS)

The draft competencies for these four industry clusters are included in this brief report. Similar competency mapping is planned for the following additional sectors (to commence in June 2018):

- Agriculture, Food, and Natural Resources (AFNR)
- Arts and Communication (A&C)
- Human and Public Services (HPS) (specifically, the Education Pathway within HPS)

What Do the Competencies Represent?

The CCPE Technical and Employability Competencies serve as quality indicators of an individual's readiness to enter an industry or to pursue further education. Competency statements apply to current industry needs, contain both employability skills and technical skills, and leave opportunity for specialized training and career advancement.

While competencies are defined differently depending on the desired outcome and setting, the U.S. Department of Labor (U.S. DOL) defines a competency as "a cluster of related knowledge, skills, and abilities that affects a major part of one's job that correlates with performance on the job, that can be measured against well-accepted standards and can be improved through training development and experience." This description ensures that competency statements are defined as a combination of learned content and the application of skills and abilities that can be demonstrated and evaluated.

For each CCPE sector area, competencies are organized into two broad categories: essential employability and technical competencies. Essential employability competencies, often connected to employability skills or "soft" skills, are workplace dispositions and attitudes connected to often-performed work tasks and behaviors. Applicable across many industries, employability competencies include the ability to connect industry knowledge to one's personal efficacy in the workplace. The ten employability competencies included in this report apply across all sectors. Technical competencies relate to specific industry knowledge and skills, and the ability to apply that learning in a workplace environment. Taken together, the universal employability competencies and sector-specific technical competencies will inform how schools design pathways courses and professional learning experiences.

Competency Research Approach and Development Process

From June 2017 through March 2018, public-private steering committees consisting of industry experts across Health Science, Advanced Manufacturing/Engineering, Finance and Business Services, and IT have reviewed national research and data from Illinois Human Resources professionals to draft core technical and essential employability competencies through the following phased process:

Phase 1: Analysis of Historical and Real-Time Labor Market Information

Phase 1 provided an analysis of historical and real-time labor-market information to identify or verify high-growth, high-demand, high-wage industries in the region.

Based on this analysis, JFF conducted and synthesized research, including the following:

- Review and analysis of existing national resources, e.g.; Department of Labor, O*Net, and national credentialing agencies
- Industry-specific implications regarding the future of work

Phase 2: Analysis of National Resources and Local Talent Pipeline Demands

To ensure competencies are aligned with the demand of the local labor market, Phase 2 of the competency mapping process involved the following:

- Interviews with local Human Resources and Talent Acquisition professionals in the industry
- Review and analysis of state and/or regional entry level job descriptions along with trends and implications

Phase 3: Establish Sector-Specific Steering Committee for Iterative Review

In Phase 3, sector-specific steering committees reviewed the national and local research and coalesced on a list of top ten essential employability and sector-wide technical competencies. These committees convened and developed competency statements in a series of in-person and virtual meetings.

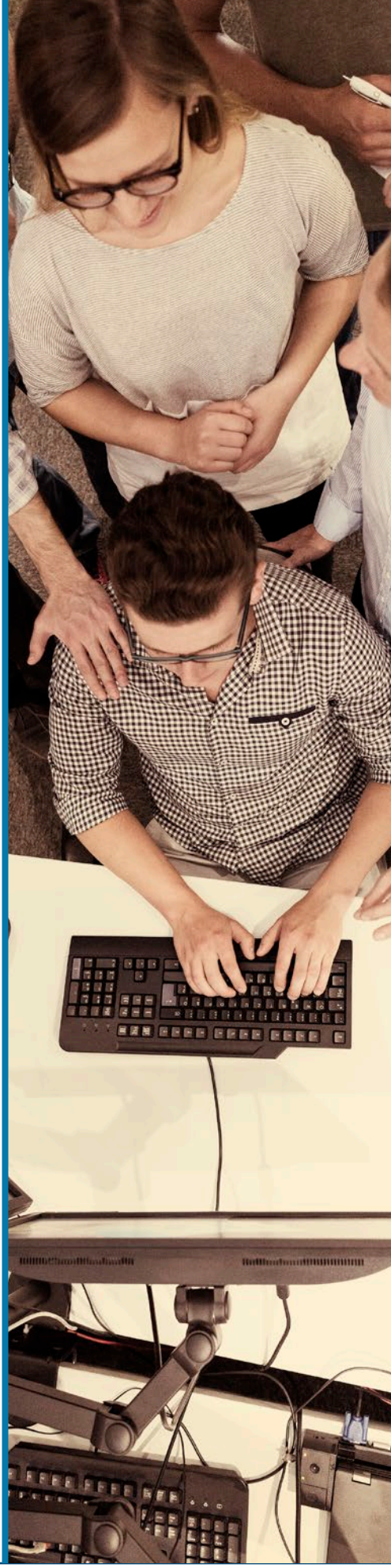
Committees included local industry experts with the following perspectives: Human Resources and Talent Acquisitions, Workforce Development and Training, Higher Education, Secondary Education and Career and Technical Education.

Phase 4: Public Comment Period

Prior to finalization and dissemination, broad-based industry feedback was collected and incorporated to encourage wider adoption for use in educational and industry-based settings. Public comment occurred through a digital survey. The survey results were then collected, analyzed and incorporated.

TOP 10 CROSS-SECTOR
ESSENTIAL EMPLOYABILITY COMPETENCY STATEMENTS
COLLEGE & CAREER PATHWAY ENDORSEMENTS

Teamwork & Conflict Resolution	Students can use their understanding of working cooperatively with others to complete work assignments and achieve mutual goals.
Communication	**Verbal:** Students can use their understanding of English grammar and public speaking skills to convey an idea, express information, and be understood by others. **Written:** Students can use their understanding of standard business English to ensure that written work is clear, direct, courteous, and grammatically correct. **Digital:** Students can use their understanding of email, keyboarding, word processing, and digital media to convey work that is clear, direct, courteous, and grammatically correct.
Problem Solving	Students can use their critical thinking skills to generate and evaluate solutions as they relate to the needs of the team, customer, and company.
Decision Making	Students can use their understanding of problem solving to implement and communicate solutions.
Critical Thinking	Students can use their understanding of logic and reasoning to analyze and address problems.
Adaptability & Flexibility	Students can use their understanding of workplace change and variety to be open to new ideas and handle ambiguity.
Initiative & Self-Drive	Students can use their understanding of goal setting and personal impact to achieve professional goals and understand personal impact.
Reliability & Accountability	Students can use their understanding of commitment, time management, and follow through to ensure that a professional team functions properly and meets collective goals.
Cultural Competence	Students can use their understanding of diversity and inclusion to communicate and work effectively across a multitude of cultures.
Planning & Organizing	Students can use their understanding of time management to plan effectively and accomplish assigned tasks.



MANUFACTURING, ENGINEERING, TECHNOLOGY & TRADES

TOP 10 TECHNICAL COMPETENCY STATEMENTS FOR **ADVANCED MANUFACTURING & ENGINEERING**

COLLEGE & CAREER PATHWAY ENDORSEMENTS

Equipment Safety	Students can use their understanding of equipment usage, practices, and procedures to maintain a healthy, safe, and secure work environment.
Manufacturing Environment	Students can use their understanding of workstations, tools, and equipment operations to safely navigate a manufacturing environment.
Personal Health & Safety	Students can use their understanding of personal safety and environmental regulations to comply with local, federal, and company health/safety demands.
Spatial Reasoning	Students can use their understanding of objects in relation to one another to understand three-dimensional imaging.
Process, Design, & Development	Students can use their understanding of technical drawings and schematics to complete the design and development process.
Installation	Students can use their understanding of tools to assemble and disassemble simple tools.
Customer Focus	Students can use their understanding of communication and project management to understand client needs and complete project accordingly.
Quality Assurance & Continuous Improvement	Students can use their understanding of product and process to meet quality systems requirements as defined by customer specifications.
Digital Manufacturing	Students can use their understanding of digital manufacturing tools and computer-based programs to complete the design and develop implementation process.
Supply Chain Logistics	Students can use their understanding of materials, suppliers, and internal systems to plan and monitor movement and storage of materials and products.

FINANCE & BUSINESS SERVICES

TOP 10 TECHNICAL COMPETENCY STATEMENTS FOR
FINANCE & BUSINESS SERVICES
COLLEGE & CAREER PATHWAY ENDORSEMENTS

Cash & Capital Principles	Students can use their understanding of the nature of cash, monetary systems, and the value of money in order to recognize the risk, return, and opportunity cost associated with capital.
Technical Applications	Students can use their understanding of spreadsheets and accounting software to maintain, update, and retrieve data from records.
Project Management	Students can use their understanding of time management and organization to set timely and measurable goals leading to project completion.
Principles of Economics & Business	Students can use their understanding of micro- and macro-economics to understand how an economy functions locally and globally.
Financial Reporting	Students can use their understanding of financial statements to assess a business's financial information.
Financial Statements	Students can use their understanding of financial statements to prepare and interpret balance sheets, income statements, cash flow statements, and retained earnings.
Customer Care & Marketing	Students can use their understanding of market demands to meet the needs of a client.
Business Operations	Students can use their understanding of transaction management to perform business operations.
Principals of Customer Relationship Management	Students can use their understanding of customer communication and customer relationship management software to attract new customers and sustain existing customers.
Fundamentals of Sales	Students can use their understanding of personalized service and market demands to secure successful sales interactions.

HEALTH SCIENCES & TECHNOLOGY

TOP 10 TECHNICAL COMPETENCY STATEMENTS FOR **HEALTH SCIENCES & TECHNOLOGY**

COLLEGE & CAREER PATHWAY ENDORSEMENTS

Medical Terminology	Students can use their understanding of basic medical terminology, including abbreviations, acronyms, and diagnostic terms, to communicate effectively with healthcare personnel and patients.
Healthcare Industry & Culture	Students can use their understanding of the basic components and culture of the health industry to understand the purpose and function of key stakeholders, practices, practitioners, and regulations.
Healthcare Delivery Practices	Students can use their understanding of the practices, procedures, and personnel involved in delivering quality patient care to evaluate the appropriateness of a plan, instructions, or assigned task.
Healthcare Industry Ethics	Students can use their understanding of confidentiality, morality, and legal concepts to evaluate and apply the merits, risks, and social concerns to workplace decisions.
Health Professions Licensure	Students can use their understanding of education requirements, licensure, and certification to ensure proper adherence to regulations that guide service delivery.
Emergency Response	Students can use their understanding of emergency procedures and protocols to respond to and expedite safety in an emergency situation.
Healthcare Confidentiality	Students can use their understanding of HIPPA to adhere to legal requirements and maintain confidentiality.
Healthcare Personnel & Roles	Students can use their understanding of the practices, procedures, and personnel used to deliver quality patient care to identify one's role on a team and within the overall health environment.
Healthcare Sanitation	Students can use their understanding of sanitation and health regulations to ensure that healthcare facilities and tools meet standards for cleanliness.
Healthcare Rules & Regulation	Students can use their understanding of basic laws and regulations (Patient Bill of Rights, CLIA, EMTALA, OSHA, etc.) to meet accreditation standards and to obey the law.

INFORMATION TECHNOLOGY

TOP 10 TECHNICAL COMPETENCY STATEMENTS FOR **INFORMATION TECHNOLOGY**

COLLEGE & CAREER PATHWAY ENDORSEMENTS

Basic Principles of Information Technology Concepts, Systems, Platforms & Tools	Students can use their understanding of fundamental IT concepts, systems, platforms, tools, and technology to understand the common roles of IT professionals.
Security	Students can use their understanding of malware, firewall, IDS, and IPS to recognize and describe basic threats to networked computers.
Logic & Fundamentals of Computer Languages	Students can use their understanding of how computer languages communicate to build basic mobile and web applications.
Routing & Network Configuration	Students can use their understanding of common networking protocols to explain the purpose of routing, network configuration, and monitoring.
User & Customer Support	Students can use their understanding of the range of services used to provide assistance and technical support to help users implement and solve problems related to information technology.
Basic Principles of Hardware	Students can use their understanding of communication systems hardware to describe the purpose and function of fundamental end user devices, switches, routers, wireless access points, etc.
Risk Management & Information Assurance	Students can use their understanding of the standards and applications needed to protect the confidentiality, integrity, and availability of information and information systems.
Basic Principles of Software Development	Students can use their understanding of designing, writing, testing, and maintaining source code of computer programs to manage and maintain software.
Networks	Students can use their understanding of hardware and software to facilitate communication between people and computer systems.
Basics of Virtualization & Cloud Computing	Students can use their understanding of the features, benefits, and concepts of virtualization and cloud computing to differentiate among types of cloud services.

Appendix I: Illinois Essential Employability Skills Framework Cross Analysis

In order to ensure cross-systems alignment, committees reviewed the Illinois Essential Employability Skills Framework, a resource designed to define and clarify essential employability skills and provide a standard for the state. This framework was developed through a collaboration of the Illinois Community College Board, Illinois Department of Commerce and Economic Opportunity, representatives of Illinois businesses, local chambers of commerce, educators, and other stakeholders.

The chart below illustrates the ten PWR Act CCPE Essential Employability Competencies' alignment with the Illinois Essential Employability Skills Framework. A full review of the Illinois Essential Employability Skills Framework can be found at:

http://icsps.illinoisstate.edu/wp-content/uploads/2017/07/Essential-Employability-Skills-Framework-Final-Printed-Version.pdf.

ILLINOIS ESSENTIAL EMPLOYABILITY SKILLS FRAMEWORK	PWR ACT CCPE ESSENTIAL EMPLOYABILITY COMPETENCIES
Personal Ethic: Integrity, Respect, Perseverance, Positive Attitude	Decision Making, Critical Thinking, Adaptability and Flexibility, Reliability and Accountability
Work Ethic: Dependability, Professionalism	Initiative and Self-Drive, Planning and Organizing
Teamwork: Critical Thinking, Effective and Cooperative Work	Teamwork and Conflict Resolution Problem Solving, Cultural Competence
Communication: Active Listening, Clear Communication	**Communication:** Written, Verbal, and Digital