Skills Mapping

1. Industry partners define the skills required for jobs in the school's field of focus:
   -Health Informatics
   -Associate of Applied Science in Chemical Dependency Counseling
   -Associate in Science: Health Science
   -Associate of Applied Science: Human Services

**To define the skills required:

A. Identify entry level jobs requiring an AS, AAS or equivalent industry approved post-secondary degree
B. Summarize the tasks that are required to perform selected entry level jobs
C. Define the broad expertise associated with each task
D. Identify the specific skills associated with the expertise

**Example:

A. <u>Identify job</u>- Healthcare Social Worker
B. <u>Summarize Career Capabilities/tasks required</u>- Social workers provide individuals, families, and groups with the psychosocial support needed to cope with chronic, acute, or terminal illnesses. Services/tasks include advising family care givers, providing patent education and counseling, and making referrals for other services. May also provide care and case management or interventions designed to promote health, prevent disease, and address barriers to access healthcare.
C. <u>Define broad expertise</u>- Therapy and Couseling, Psychology, English Language, Customer and Personal Service, Sociology and Anthropology, Education and Training, Medicine and Dentistry, Clerical, Law and Government, Philosophy and Theology, Computers and Electronics, Administration and Management, Personnel and Human Resources, Communications and Media, Public safety and security.
D. <u>Identify Specific Skills</u>- Active Listening, Speaking, Social Perceptiveness, Critical Thinking, Coordination (adjusting actions in relation to other's actions), Reading Comprehension, Service Orientation (Actively looking for ways to help people), Writing, Complex Problem Solving, Judgement and Decision Making, Active Learning, Time Management, Instructing, Management of Personnel Resources, Science, Systems Analysis.
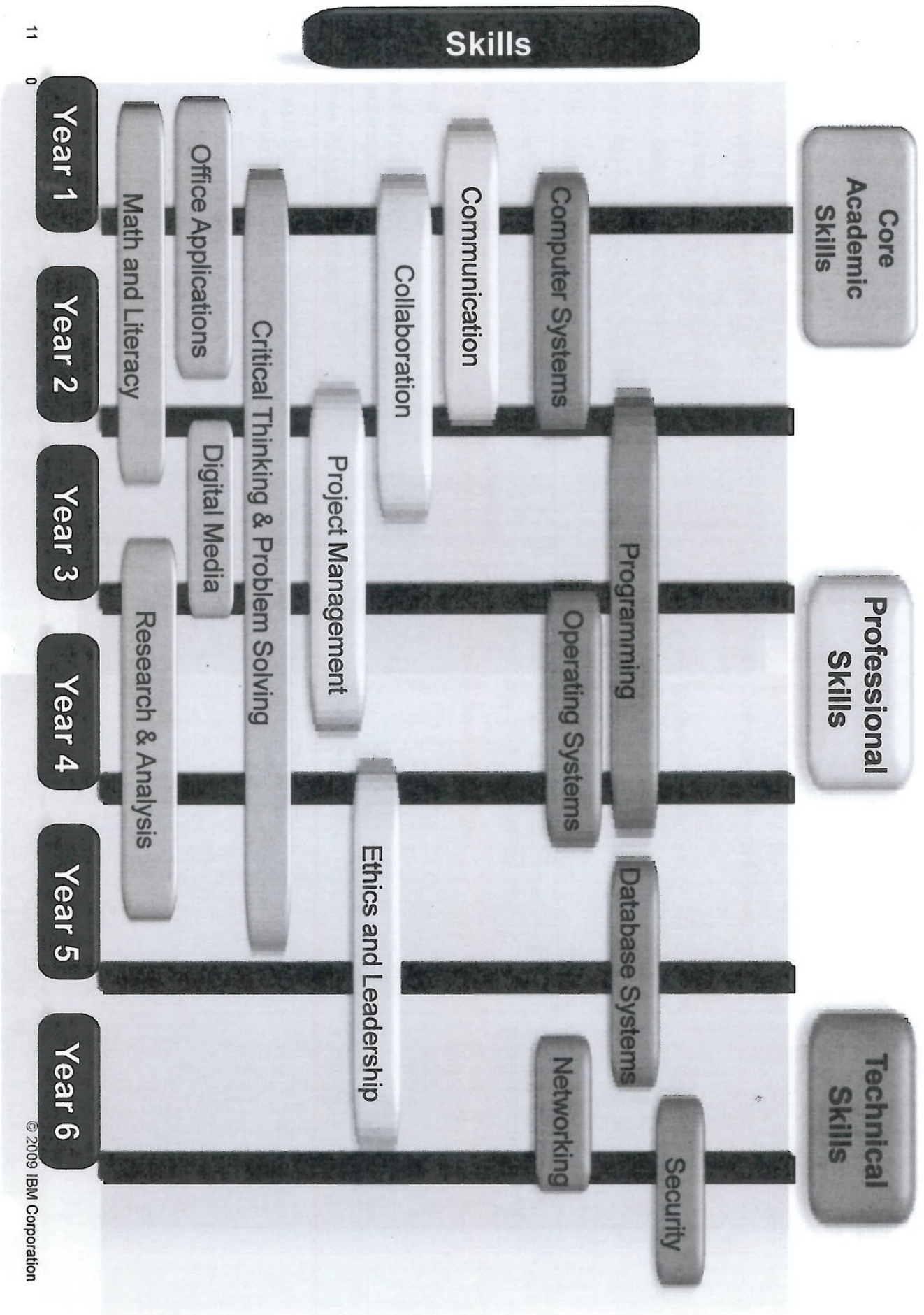
2. High school and college leadership and faculty work with the industry partner to determine the postsecondary degrees and the specific sequence of secondary and postsecondary coursework that will provide students with the necessary skills.
   1. Identify AAS degree pathway
   2. Order skills by complexity-Technical vs. Professional skills (Documents 1&2)
   3. Connecting skills to courses and curricula (Document 3)
   4. Develop an integrated scope and sequence (Document 4)
   5. Providing work-based professional development for school staff

3. On an annual basis, revisit the Skills Mapping to ensure that it is up-to-date and that it continues to serve industry and education requirements. (Document 5)

Document 1

Example from IBM's Skills Mapping Process: Technical and workplace skills comprising Mobile Technology expertise (needed for the Technical Support Representative role) and Business Professional (needed for Software Specialist role)

Step 3: Define the broad expertise associated with those tasks	Step 4: Summarize the specific skills associated with the expertise
Mobile Technology Expertise (necessary for Technical Support Representative):	**Technical Skills:** • Identify problems related to installation, update, configuration, operations or performance, resolve problems, advise on potential resolutions and their implementation and implement suggested resolutions. • Device functional knowledge specific to build, installation, tuning, debugging applications, problem analysis, troubleshooting, technical evaluation. • Apply knowledge of wireless networking and knowledge of features and functions of the product. • Apply knowledge of SmartPhones (android, blackberry, iPhone, Windows), iPad and other tablets, notebook computers • Perform support (problem determination, trouble-shooting, incident resolution, system prep/deploy, application update, etc) to mobility devices such as PDA's (Personal Digital Assistants), netbooks, mobile phones / smartphones (Blackberry, iPhone, et al), Palm, iPad, etc **Workplace Skills:** • Advise, support, and guide customers customer • Use technical resources and tools to answer customer's questions and respond to customer's requirements.

Skills

| | Core Academic Skills | Professional Skills | Technical Skills |

Year 1 · Year 2 · Year 3 · Year 4 · Year 5 · Year 6

- Math and Literacy
- Office Applications
- Critical Thinking & Problem Solving
- Communication
- Collaboration
- Computer Systems
- Digital Media
- Project Management
- Research & Analysis
- Programming
- Operating Systems
- Ethics and Leadership
- Database Systems
- Networking
- Security

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Document 3

Skills	Corresponding Courses	Additional Resources to Support Learning
Platforms: •Apply knowledge of Unix/Linux •Apply knowledge of Mac OSX •Apply knowledge of storage products •Apply knowledge of virtualization •Apply knowledge of Windows Operating Systems •Maintain desktops and workstations	CST 1204- Database Systems Fundamentals CST 1215- Operating Systems Fundamentals CST 2400- Computer Systems Management and Support CST 2415- System Administration (UNIX/Linux) CST 2404- System Administration (Windows)	IBM System Z Mainframe Competitions
Project Management: • Planning, organizing, securing and managing resources to bring about the successful completion of specific project goals and objectives • Project Tracking/Reporting/Delivery ProcessPlan ProjectsManage Project ChangeManage Cost/Revenue	Daily work-based learning course at P-TECH with emphasis on project-based learning School-wide team challenges	Monthly work-based learning team projects at P-TECH
Business Process Modeling: •Apply existing business processes to support business mission, ensure consistency, and measure effectiveness. •Seek out opportunities to introduce process improvements, optimize attainment of key metrics and eliminate redundancy. •Drive to achieve client objectives. •Ensure business processes are in place to support achievement of objectives.	Virtual Enterprise course at P-TECH Work-Readiness Seminars	Internships

Sample Work-Based Learning Scope and Sequence Overview

	Year 1	Year 2	Year 3	Year 4	Years 5/6
Theme	Intro to Information Technology	Problem-Solving in the Workplace	Work Readiness for IT Fields	Leadership in the Workplace	Co-Op Experiences
Core Standards	Build awareness about how to use critical thinking and teamwork to solve problems and improve lives; Build awareness about what information technology really means.	Explore how information technology can solve a problem in the community; Explore careers in information technology	Prepare to be successful in an information technology work environment.	Prepare to be successful in an information technology work environment; Develop an education and/or career pathway.	Students will be able to pursue their academic and professional interests in more depth according to their goals and skills.
Professional Skills	Communication, Accountability, Critical Thinking	Project Management, Adaptation, Research & Analysis	Technical Writing, Innovation and Creative Problem-Solving	Work-Readiness, Ethics, Leadership	Leadership
Technical Skills	Office Applications, Digital Media, Programming Fundamentals	Computer Systems, Programming, Circuits	Mobile Technology, Digital Control, Data Management	Database Systems, Operating Systems, Electronics	Computer Hardware Systems, Networking, Security
Outcomes	Quarterly group projects and presentations; Portfolio of projects, graded rubrics, and written reflections	Quarterly group projects and presentations (or team competitions); Portfolio of projects, graded rubrics, and written reflections; Gateway Presentation	Group project Product/web design concept; Individual research project/presentation	Research project or Internship	Co-Op or Internship
Assessments	Project Rubrics; Portfolio	Project Rubrics; Gateway Presentation	Project Rubrics; Portfolio	Mastery Exams of Technical Skills; Gateway Presentation	Mastery Exams of Technical Skills; Course exams
Ongoing Activities	Mentoring, Job Shadowing; Worksite Tours; Guest Speakers; Team project; Externship	Mentoring, Job shadowing; Worksite Tour; Guest Speakers; Externships.	Mentoring, Worksite Tour; Career Fair with Industry Coalition; College visit with mentors; Guest Speakers	Mentoring, Internship or Independent Research; Develop Resumes; Mock Interviews; Guest Speakers as needed	Mentoring, Internship or Independent Research; Develop Resumes; Mock Interviews; Guest Speakers

Annual Review

Professional
Development

Industry
Analysis

Work-based Learning

Experiences

21st Century
Job Readiness

Job

Requirements

Technical
Skills

Degree
Pathways

Skills Mapping