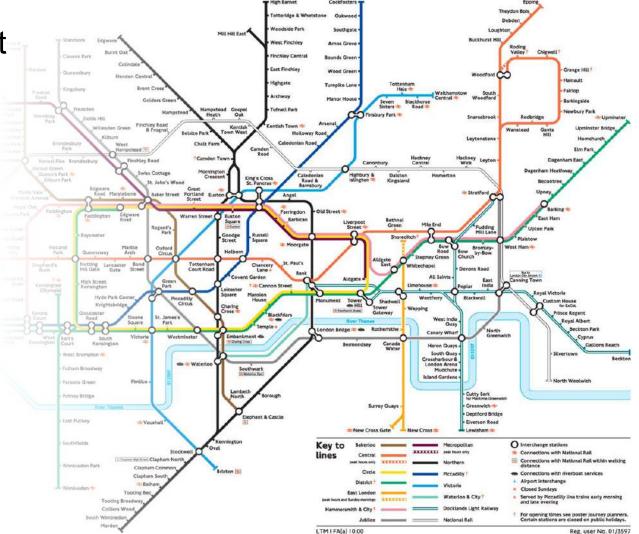
Pathway as 'Transit Map'— Defining 'Station Stops'

In the context of Credential Engine:

- · Pathway is a...
 - Resource composed of a structured set of components defining points along a route to fulfillment of a goal or objective.
- Components are defined points which describe an objective and its completion requirements:
 - Competencies
 - Assessments
 - Credentials
 - Work experience
 - Jobs
 - Pathways
 - And more



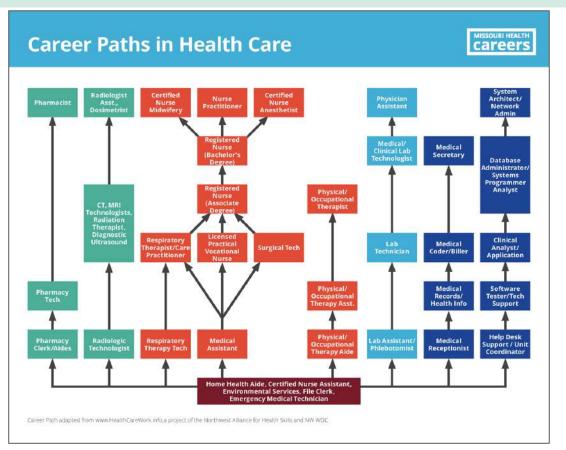
Use Cases

- Students and workers search for career pathways
- Find credentials, learning opportunities, assessments that meet a career goal
- Optimize an individual's career and education pathway for:
 - lowest costs, short-term costs, or total costs
 - time commitments, intensive, full time, part time, weekend
 - most transfer value for earned credentials and learning from experiences
 - future portability via connections and stacking with other credentials



Example: Missouri Career Paths in Health Care

https://missourihealthcareers.com/resources/career-paths-in-health-care/



Example: Cyberseek Career Pathway Cybersecurity

https://www.cyberseek.org/pathway.html



Example: SUNY Empire State College PLA Guide

https://www.esc.edu/degree-planning-academic-review/prior-learning-assessment/



Steps in the iPLA Process	You	Your Mentor	Center Office of Academic Review (COAR)	The Evaluator	The Faculty Committee	Office of Collegewide Academic Review (OCAR)
Step 1 Identify your college-level knowledge	Work with your mentor Examine your experiences and identify how your knowledge fits best into your degree plan	Helps you identify your college-level knowledge	Provides free workshops on iPLA			
Step 2 Describe and document your learning	Prepare your learning description with supporting documentation Propose a tick, the number of possible credits and credits designations (e.g., liberal arts and sciences, general education, level)	Reviews your iPLA request and gives feedback, as needed				
Step 3 Submit your prior learning request	Log onto PLA Planner through MyESCI Academics/Your Degree Plan or www.esc.edu/PLA Set up your request (learning description, supporting materials, credit information and link to degree plan) Submit your request to your mentor for approval	Reviews your request and, if ready, submits to COAR	Provides assistance, as needed Revæves your iPLA request and provides feedback, as needed			
Step 4 Request is reviewed and assigned to an evaluator			Reviews your request and, if ready, assigns a qualified evaluator			
Step 5 A qualified evaluator assesses your collège-level learning	Contact the evaluator to set up your interview You are interviewed by the evaluator			Reviews your request and checks your degree plan for redundancy Interviews you regarding your learning		
Step 6 The evaluator writes and submits a credit recommendation report				Requests additional information or documentation, as needed The evaluator writes and submits a credit recommendation report		
Step 7 The college reviews and approves the evaluator's credit recommendation			COAR reviews and includes the evaluator's recommendation report in your degree plan		Reviews and approves the credit recommendation, as part of your degree plan review	Approves the PLA credit as part of the final review (concurrence) of your degree plan and officially posts your PLA credits in your student record

Example: University of Minnesota AP Score Awards

https://admissions.tc.umn.edu/academics/ap.html

University of Minnesota Driven to Discover				
+ Menu				
Area/Test	Score	Award ²	Liberal Education Award ²	
Art History	3.4.5	4 credits in Art History 1001 (Introduction to the History of Art)	Arts/Humanities core requirement, Global Perspectives theme	
Biology	3.4.5	4 credits in Biology 1009 (General Biology)	Biological Science/Lab requirement	
Calculus AB	3.4.5	4 credits in Math 1271 (Calculus I)	Mathematical Thinking core requirement	
Calculus BC	1.2 and AB subscore of 3.4.5	4 Credits in Math 1271	Mathematical Thinking core requirement	
	3	4 credits in Math 1271	Mathematical Thinking core requirement	
	4.5	8 credits in Math 1271, 1272 (Calculus I-II)	Mathematical Thinking core requirement	
Chemistry	3	4 credits in Chemistry 1061, 1065 (Chemical Principles I with Lab)	Physical Science/Lab requirement; Does NOT fulfill Environment theme	
	4.5	8 credits in Chemistry 1061, 1062, 1065, 1066 (Chemical Principles I and II with Lab)		
Chinese Language and Culture		No credit granted		
Computer Science A	3.4.5	4 credits in Computer Science 1103		
Computer Science Principles	3.4.5	4 credits in Computer Science 1001	Mathematical Thinking core requirement and Technology and Society theme	
Economics-Micro	4.5	4 credits in Econ 1101 (Principles of Microeconomics)	Social Science core requirement: Does NOT fulfill Global Perspectives theme	

Example: KBOR Military Service Transfer Value

https://military.kansasregents.org/MAP/course_info/001902/25



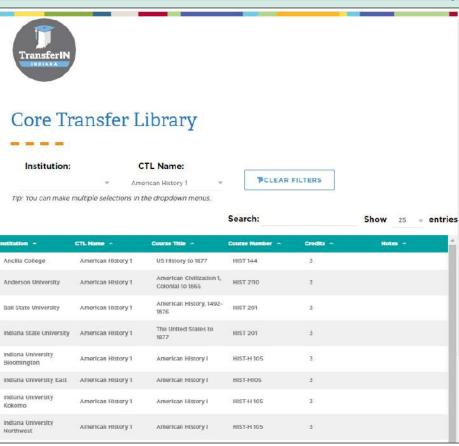
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COURSE ID	COURSE TITLE	HOURS
HPR6325	LIFETIME FITNESS	1
HPR6330	PHYSICAL CONDITIONING I	1
CAP1516	COMPUTER APPLICATIONS	3
ALH5211	BASIC FIRST AID	1
INR3735	INDUSTRIAL TECHNICAL WRITING	3
BUS1640	BUSINESS COMMUNICATIONS	3
COM2725	COM2725 INTERPERSONAL COMMUNICATION	
BUS1311	INTRODUCTION TO BUSINESS	3
	18	

Github Example JSON-LD

Example: Indiana Core Transfer Library

https://transferin.net/transfer-resources/transfer-databases/core-transfer-library/



Example: WICHE Interstate Passport

http://interstatepassport.wiche.edu/documents/IP_Overview.pdf



INTERSTATE PASSPORT OVERVIEW

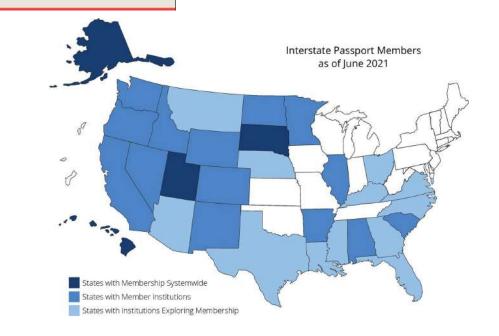
WHAT

Based at the Western Interstate Commission for Higher Education (WICHE), Interstate Passport® is a national program facilitating block transfer of completed lower-division general education based on student learning outcomes, rather than on specific courses and credits. Students who transfer with a Passport to another member institution are recognized as having completed all lower-division general education requirements prior to transfer, regardless of course titles and credits.

Interstate Passport builds on the learning outcomes work of individual campuses and their related general education reforms. It is also consistent with and integrates well with campus-guided pathways work.

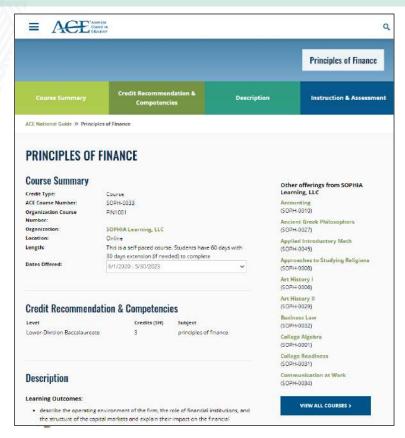
HOW

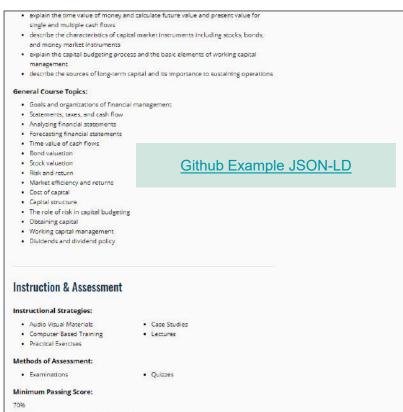
An institution determines if its own learning outcomes for lower-division general education are congruent with and cover the same range of learning as the 63 Passport Learning Outcomes (PLOs) included in the nine knowledge and skill areas. The institution identifies the courses and lists of choices (Block) by which students can achieve the PLOs, awards a Passport to students who earn it, and reports the awards to the National Student Clearinghouse (NSC). Participating institutions also report academic progress data on transfer students to NSC, which sorts the data and sends reports about their former students to each sending institutions for use in continuous improvement efforts.

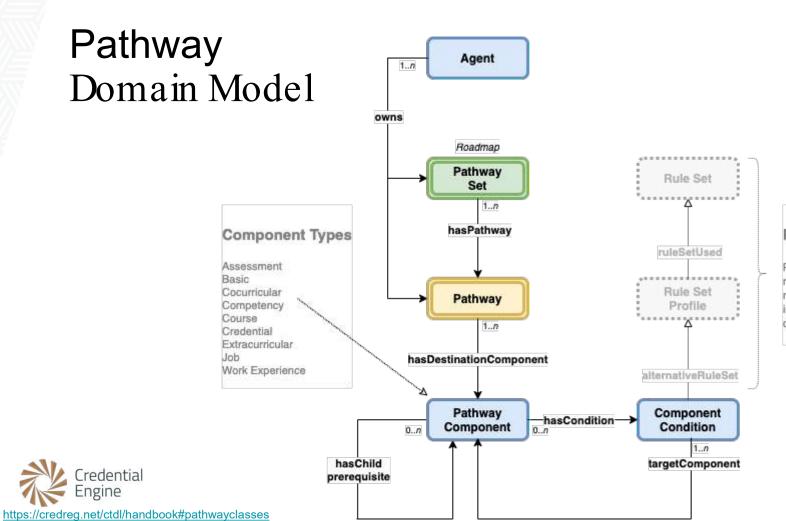


Example: ACE Course Credit Transfer Recommendation

https://www.acenet.edu/National-Guide/Pages/Course.aspx?org=SOPHIA+Learning%2c+LLC&cid=6bb6586f-94c4-ea11-a812-000d3a378a3a







Future Rule Set Types

Rule Sets that machine identify the rules or methods by which one or more PathwayComponent instances satisfy the requirements of a ComponentCondition.

MCTA Pathway Opportunities

- Build on MCTA's broad interest in a regional approach to pathways
- Progress on equity and social mobility outcomes
- Many active pathway projects occurring in Midwest states
- Registry and CTDL support for pathways, components, transfer value, and more
- Engagement and support across multiple industries and sectors
- Significant state technical investments in related software and services



Research Findings: Midwest pathways

- As of August 19, 2021, identified and analyzed 691 pathways across the 12 Midwestern states
- Most are Career & Technical Education (CTE) pathways
- Pathways contain
 - Credentials 97%
 - Courses 62%
 - Occupations & jobs 52%
 - Organizations 49%
 - Transfer value & credits 46%
 - Competencies 41%
- Pathways are primarily divided by state lines. Exceptions include national and sector-based organizations (ACE, WICHE, Cyberseek)



Research Findings: Technology

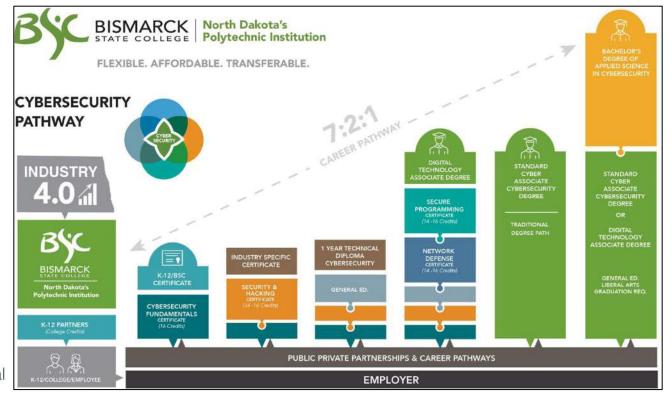
- Most pathways are documented as unstructured data
 - pdf 62%
 - web pages 29%
 - web forms 9%
- Many use templates for some consistency
- Pathway caveats are noted as comments
- Some broken links, especially for linked secondary sources
- Specialized products & services: CareerOneStop, EMSI, ISKME, Kuder, Mapping YourFuture, MyNextMove, PCG Consulting, PTD Technology, RANDA, RoadTripNation, TES, Transferology, Vantage Point, XAP



Research Findings: CTDL Schema

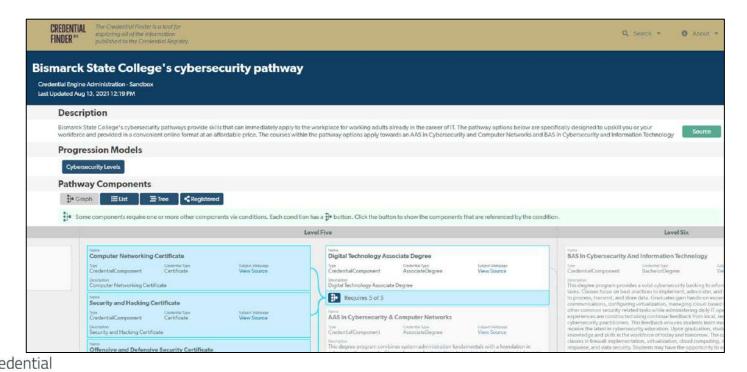
- All pathways and components are supported by the CTDL schema
 - Organizations, credentials, learning opportunities, and pathways
 - Pathway components: Assessment, Basic, Cocurricular, Competency, Course, Credential, Extracurricular, Job, and Work Experience
 - Earnings and employment outcomes
 - Transfer value and credential connections
 - Quality assurance
- Confirmed pathway publishing with Bismarck State College's cybersecurity pathway using a bulk upload spreadsheet
 - Goal to have an integrated publishing workflow from source systems Campus Solution, CourseLeaf, and more

Bismarck State College's cybersecurity pathway



Source: https://bismarckstate.edu/uploads/248/Cyber%20K-12%20Partners%20Stack%20slide.jpg

Bismarck State College's cybersecurity pathway in Credential Registry





Midwest Pathway Maturity Model

Current	Future	
Pathways are hard to create & manage	Pathways are part of workflows	
Pathways are outdated	Pathways are linked to labor market	
Pathways are hard to find	Pathways are ubiquitous and widely accessible	
Pathways are hard to understand	Pathways are understandable	
Pathways have gaps	Pathways support decisions	
Pathways are disconnected	Pathways are connected	
Pathways are designed for a 'generic' user	Pathways support everyone	



Padlet exercise:

How might we improve pathways across the Midwest?

