



I-WIN

Illinois Work-Based Learning
Innovation Network

Manufacturing WBL Continuum of Experiences

February 16, 2022



Education Systems Center

NORTHERN ILLINOIS UNIVERSITY

Who's here today?

**Please use the chat to write
your name, title, organization
&**

**A question that you have
about designing or
implementing WBL
experiences in Manufacturing**

- Please mute computers and/or phones during the presentations
- There will be time for Q&A after each presentation
- Please use the chat to provide any comments or questions throughout



[Link to I-WIN Resource Hub](#)



I-WIN

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Highlight and explore innovative models for work-based learning, initial focus on virtual



Engage in conversations on creating sustainable, high-quality models that provide broader and more equitable access, with a focus on building social capital for Black and Latinx students



Build connections among communities to share best practices, learnings and resources



Identify needs for state policy changes or support systems



Work-Based Learning Continuum



Definitions: *Illinois Career Pathways Dictionary*



How does Illinois define these WBL experiences?

Career Exploration	Team Based Challenge	Career Development Experience
<p>Provides an individual with the ability to engage directly with employers, for the purpose of gaining knowledge of one or more industry sectors or occupations.</p>	<p>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.</p>	<p>A supervised work experience relating to an individual's career area of interest that:</p> <ol style="list-style-type: none"> 1. Occurs in a workplace or under authentic working conditions; 2. Is co-developed by an education provider and at least one employer in the relevant field; 3. Provides compensation OR educational credit to the participant (or both); 4. Reinforces foundational professional skills including, at a minimum, those outlined in the Essential Employability Skills framework; and 5. Includes a Professional Skills Assessment that assesses skill development and is utilized as a participant feedback tool. 6. Takes place for a minimum of 60 total cumulative hours

Source: [Illinois Career Pathways Dictionary](#)



Manufacturing & Engineering Model Program of Study

- [Webinar Recording](#)
from November 2021
- [Guide](#)
- [Diagram](#)

State of Illinois
Model Programs of Study Guide:
Manufacturing and Engineering

October 2020



Statewide Team-based Challenge Resource Bank

IDEAS FOR INSPIRATION: TEAM-BASED CHALLENGES

Manufacturing, Engineering, Technology, and Trades

Plant Safety	Review the history and current practices for plant safety within an organization and suggest recommendations for improvement.
Review Plans/Maps	Inspect plans and/or maps of structures to determine areas in need of troubleshooting and make recommendations for repairs.
Basic Design	Given a design need, create basic detail and assembly drawings for products and equipment that address concepts in layout, print reading, measurement, and quality assurance.
Cost Estimation	Given an authentic need from a customer, research vendors and apply cost estimation principles to create a project timeline and estimate labor and material costs.
Build and Test Prototypes	Given a need to address, develop and test prototypes as potential solutions — document results as able to build and test prototype for quality control to make recommendations for improvement to prototype.

- Organized by College and Career Pathway Endorsement Area
- Includes ideas for inspiration and detailed models, along with a template for designing your own
- Resource bank and materials available on [I-WIN resource hub](#)

We need your help! Please send any models to Heather, hpenczak@niu.edu



GCAMP Manufacturing Workforce Success Series

GCAMP is hosting a series of meetings designed to further the connection between industry and education.

The goal is to prepare local manufacturing companies who hire students, work with education, and find resources to upskill current employees to build their future workforce.

For more information click [HERE](#)

A diamond-shaped flyer for the GCAMP Manufacturing Workforce Success Series. The flyer features the GCAMP logo at the top, which consists of a gear icon and the text 'GCAMP'. Below the logo, the date 'February 24th' is prominently displayed. The flyer lists two event times and locations: '8:00am-10:30am @ BIG DAISHOWA 2600 Huntington Blvd. - Hoffman Estates' and '2:00pm-4:30pm @ Valley Industrial Association 2000 S. Batavia Ave. - Geneva'. A call to action reads 'Click HERE for more information and to register https://www.gcamp.org/'. At the bottom of the flyer is the VIA logo, which is a circular emblem with 'VIA' in the center. The background of the flyer shows a collage of images related to manufacturing and education, including people working with machinery and a blue race car with the number 68.



EQUITY FIRST

Building Toward a Better Future and Revitalizing Learning

FEB 28 - MAR 3, 2022

Register at
<https://www.60by25.org/2022-conference/>

Today's WBL Presenters

Ridgewood High School

- Eric Lasky & Lisa Balata

Illinois Manufacturers' Association

- Sarah Hartwick



Ridgewood High School

Superintendent Jennifer Kelsall

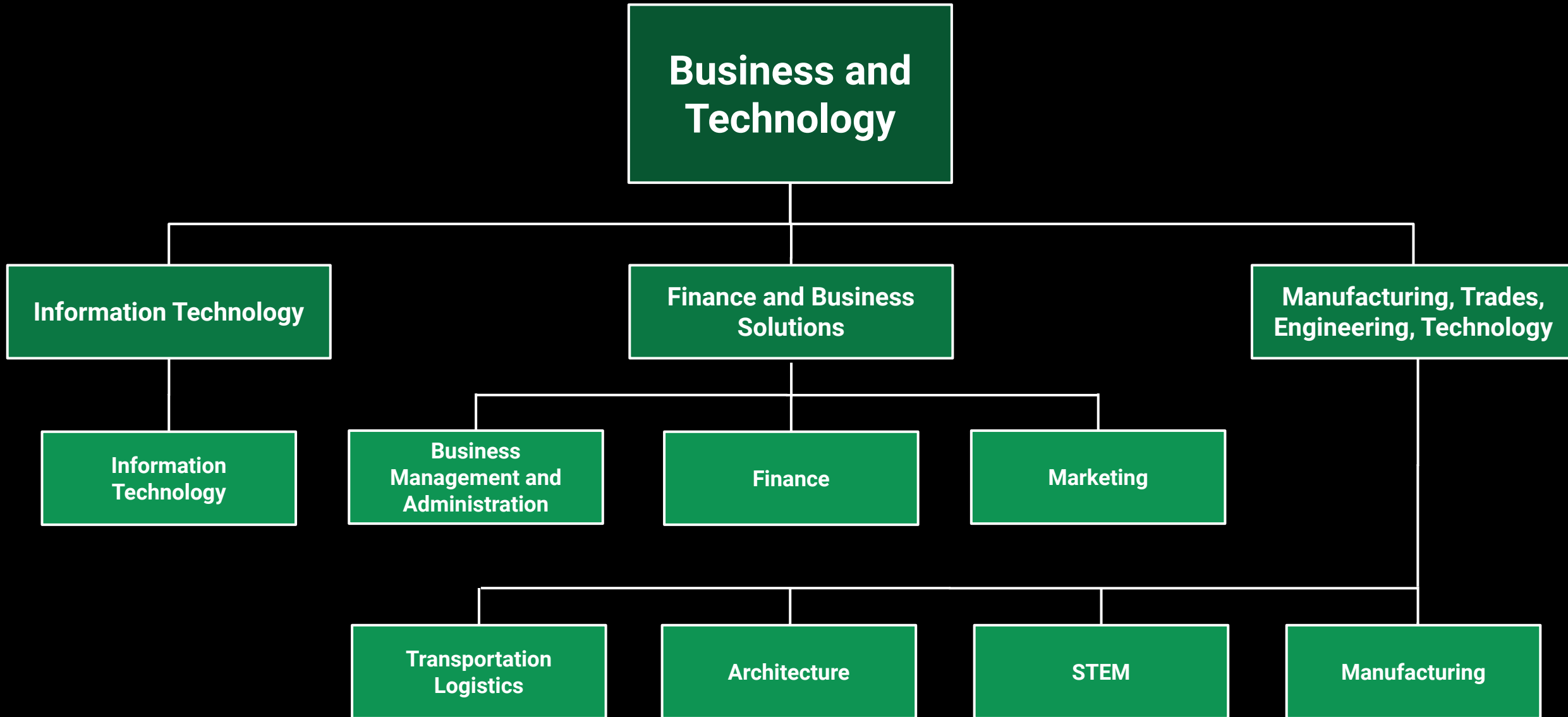
Principal Gina Castellano

Presenters

Eric Lasky - Assisting Principals

Lisa Balata - Career Pathways and Innovative Programs

Ridgewood Career Pathways



Goals

- Fill the needs of our community
- Create a diverse workforce
- Provide high school students with a competitive career choice with strong ROI
- Develop a Career Pathway in Manufacturing multiple opportunities

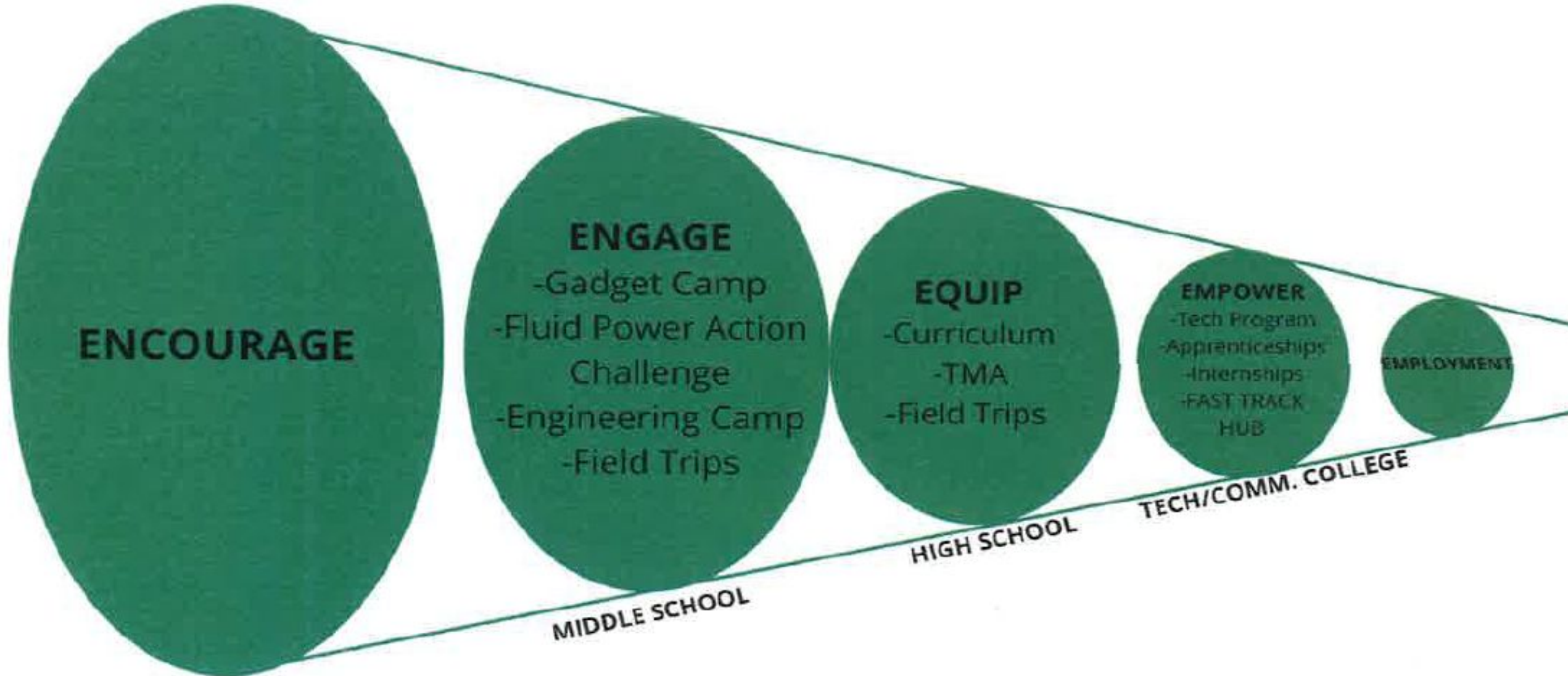
Our Why?

- Occupational Outlook
- Multiple manufacturing companies in our backyard

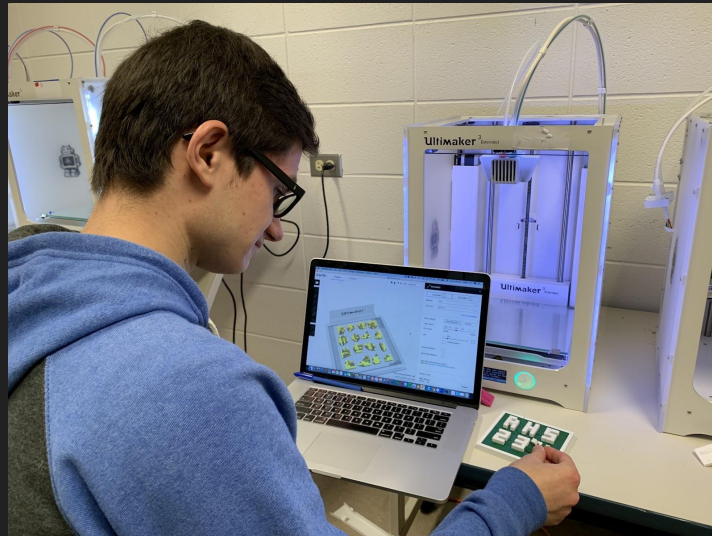
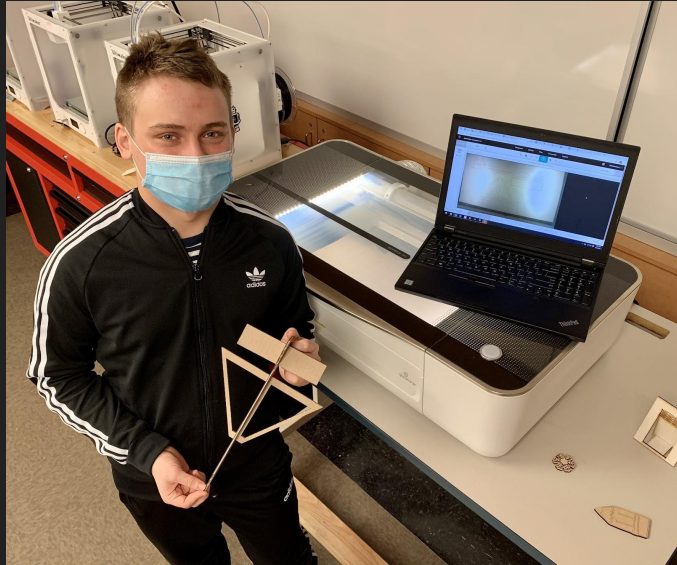
Mission: Encourage, engage, equip, and empower young people so they are prepared to immediately contribute to industry, enhancing their lives and society at large.

Advisory Council: Triton College, Ridgewood HSD234, QCC, TMA, DVR Director, Union Ridge SD86, Norridge SD80

We have to get started early



All freshman take PLTW



Identify Student that like Hand-On Classes



Geometry in Constructions



A2iB

Breakdown of Steps

Four Parts to Earn an Endorsement on Your Diploma

1. Individualized Learning Plan
2. Career Exploration
3. Labor Market Information - In Demand Occupations
4. Pathway
 - Regional Postsecondary Program
 - Pathway courses - at least 2 dual credit
 - Related Electives
 - Transitional Support Transitional Math, Transitional English
 - Professional Learning Experiences - career exploration, team based challenges, career development

Career Exploration - Freshman Year

Career Exploration

- Xello
- Matchmaker
- Personality Style
- Learning Style
- Career Options
- Discovery Learning Pathways
- Interests



English 1: Career Research/Presentation

- Education requirements
- Job Outlook
- Salary
- Job Description
- Typical Work Week

Triton Visit - Fields of Study

Career Exploration - Sophomore Year

Career Experience

- Take an elective in a pathway
- Explore postsecondary programs
- Financial planning
- Team-based challenge
- Choose an endorsement path

English 2: Career Research/Presentation

- Education requirements
- Job Outlook
- Salary
- Job Description
- Typical Work Week

Attend College/Career Pathway Day

Team Based Challenges

Work with local professional in your community.

Come up with a problem.

Have a work day with mentors.

Students present to an authentic community - or demonstrate their product.

Team Based Challenge

University of Illinois Engineering Camp

N F P A
Fluid Power
ACTION
Challenge

R RIDGEWOOD HIGH SCHOOL

ORIGINATOR: Mitch Bivens  **Micromatic**

EDITED BY: Stephen Rogers
Mechanical Kits Ltd.
Science, Technology, Engineering & Math

 **Triton College**

 
Additional Contributions By:

Daman

Modified: 01/13/22



Career Development

Work with Technical Manufacturing Association (TMA).

Students earn NIMS Credentials

After student earn their NIMS Credential

Students complete a paid internship with our manufacturing partners.



Tips for school

- **Find a Champion**
- **The work starts in grade school**
- **Find ways for student to earn NIMS credential**
- **Partner with Manufacturing companies that are dedicated to developing talent for Career Development Experience.**



ILLINOIS
MANUFACTURERS'
ASSOCIATION

**BOLDLY MOVING MAKERS
FORWARD**



128 Years of IMA

1890s – Gillette razors, Kodak cameras, and Campbell Soup in a box

1900s – Vacuum Cleaner & Model T

1910s – Boeing and Maytag washers

1920s- first transatlantic call

1930s – 3M Scotch tape

1940s – Pfizer 50 trillions units of penicillin

1950s – Polio vaccine and color TV

1960s – AT&T launches Telstar – US & Europe

1970s – First totally programmable robot

1980s – IBM launches home computer

1990s – Hubble space telescope, F-22 test flight & IoT coined by P&G

2000s – Prius hybrid, Deere autonomous tractor, Space X Falcon, iPhone

2010s – iPhone 11, drones, autonomous vehicles

BOLDLY MOVING MAKERS FORWARD



IMA Education Foundation's Education & Workforce Policy Tour

- Vision: What role can the state have in removing barriers faced by employers in Illinois, particularly manufacturers, when it comes to workforce issues?
- Brief Summary
 - Over six weeks, 10 stops were made with over 150 participants total attending.
 - Each meeting provided an overview of the workforce shortages today followed by a local manufacturer led discussion of workforce barriers and issues specific to their region.
 - Each region has their own unique challenges and ideas around solutions.
 - Several legislative solutions were also identified that could solve for some of the education and workforce policy barriers Illinois manufacturers are currently experiencing.

BOLDLY MOVING MAKERS FORWARD



Statewide Education & Workforce Policy Tour Stops

Springfield	Rend Lake College, Ina
Lakeland College, Effingham	Parkland College, Champaign
Rock Valley College, Rockford	Heartland College, Bloomington
Southwestern Illinois College, Granite City	South Suburban College, Oak Forest
Harper College, Palatine	

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Statewide Themes Identified

Several items rose to the top at each meeting and each region had their own unique challenges and ideas around solutions. The common themes identified across the State are listed below:

- There is a lack of interest in careers in manufacturing across demographics from students, parents, adult learners, etc.
- Employers face challenges in both identifying and recruiting potential employees.
- Employers also face significant challenges in retention and in planning for retirements. Several regions across the state will be experiencing an above average percentage of retirements in the coming 5-10 years.
- There is an overlap and/or silo of regional services and programs that creates gaps in services that are all targeted to support and addressing workforce needs.
- There is a current skills gap that goes deeper than the implementation of Industry 4.0. Today's skills gap results in significant remediation needs in the subjects of math, reading, and in the essential/soft skills.
- There are limitations on education institutions at all levels that prevents schools from being able to respond to employer workforce and training needs quickly.

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Examples of Creative Solutions

- Partnerships with education institutions:
 - Contextualizing education through career exploration opportunities down into elementary school.
 - Implementing the talent pipeline management system based on the future workforce needs of regional employers.
 - Communicating the message of what manufacturing looks like today to a wide array of audiences.
- Innovative recruitment strategies:
 - Utilizing marketing tools and design in rebranding efforts around company mission.
 - Updating language and job requirements in vacant position descriptions.
 - Exploring non-traditional employee career pipelines.
 - Updating HR hiring and onboarding practices/timelines.
- Retention in the time of the Great Resignation:
 - Utilizing “stay interviews” vs “exit interviews”
 - Communicating opportunities for advancement.
- Proven practice of building a talent pipeline and preparing for retirements through apprenticeships.

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Recommended Legislative Solutions

- Recommended financial incentives:
 - Develop a state supported campaign on careers in manufacturing.
 - Provide student loan forgiveness for individuals who return to their hometowns to work in the manufacturing field.
 - Provide flexible grant funding for well-established regional networks to support local workforce strategies and solutions.
 - Establish a manufacturing and technology line-item in the ISBE budget targeted to expanding manufacturing programming in Illinois high schools.
 - Release of Employer Training Investment Program grant funding. **DONE!**
 - Establish additional advanced manufacturing academy grants.
- Recommended educational changes:
 - Establish a state-wide career development experience continuum.
 - Provide mandate relief for high school graduation requirements and to allow for work-based learning opportunities.
 - Prioritize the expansion of the competency-based pilot programs.

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Next Steps

- The IMA Education Foundation will soon be releasing the final report discussing the findings.
- The IMA and the IMA Education Foundation will continue to look for opportunities to file legislative solutions identified throughout the tour.
- The IMA and the IMA Education Foundation will also continue to work closely with stakeholders to align priorities and identify solutions to the current workforce crisis for both employers and employees.

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Feedback/Questions?

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Thank You!

Sarah Hartwick

Vice President of Education & Workforce Policy

shartwick@ima-net.org

217-718-4211

BOLDLY MOVING MAKERS FORWARD

Announcements & Closing



WBL Continuum Overview Resources

- Templates for download on [I-WIN site](#)
- Career Exploration [Presentation](#) & [Recording](#)
- Team-Based Challenges [Presentation](#) & [Recording](#)
- CDEs – [Presentation](#) & [Recording](#)



Next Steps

- The recording and materials from today will be sent out shortly
- Submit a resource through the [I-WIN site](#) or directly to hpenczak@niu.edu – looking especially for Team-based Challenges! The EdSystems intern Eni may also be reaching out to you to gather your models to share through I-WIN.
- Please let Heather know if you are interested in presenting on your model or have recommendations for presenters for IT or Business to share at I-WIN

Thank you all for joining!

