

Promoting Connections in the Talent Development Pipeline Webinar

June 2, 2015



Agenda

Curtiss Davis, WIRED Teacher, Area 30 Career Center

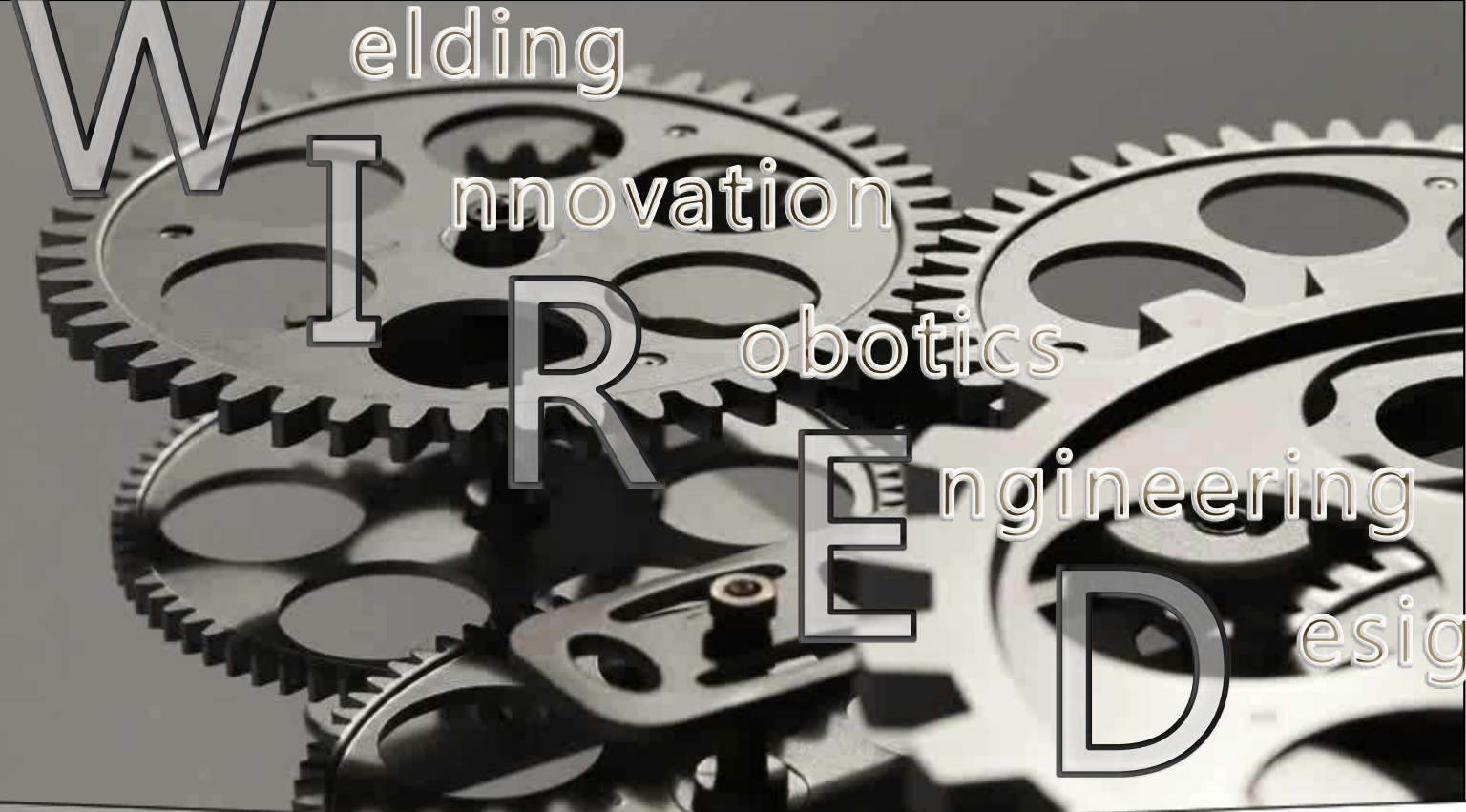
- Innovative Curriculum Grant Success Story

Gary Bertoline, Dean and Distinguished Professor, Purdue Polytechnic Institute

- Purdue Polytechnic Model

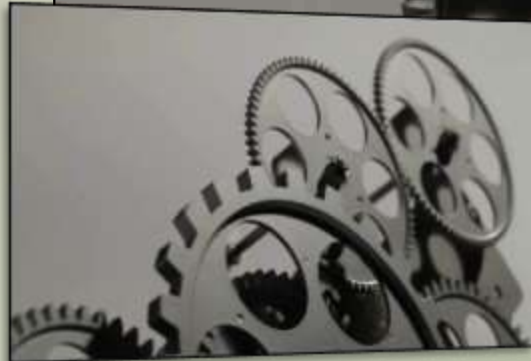
Patrick McGrew, Associate Director of Policy and Programs, Indiana Education Roundtable

- Indiana Career Council — Pathways Taskforce Progress



Welding
Innovation
Robotics
Engineering
Design

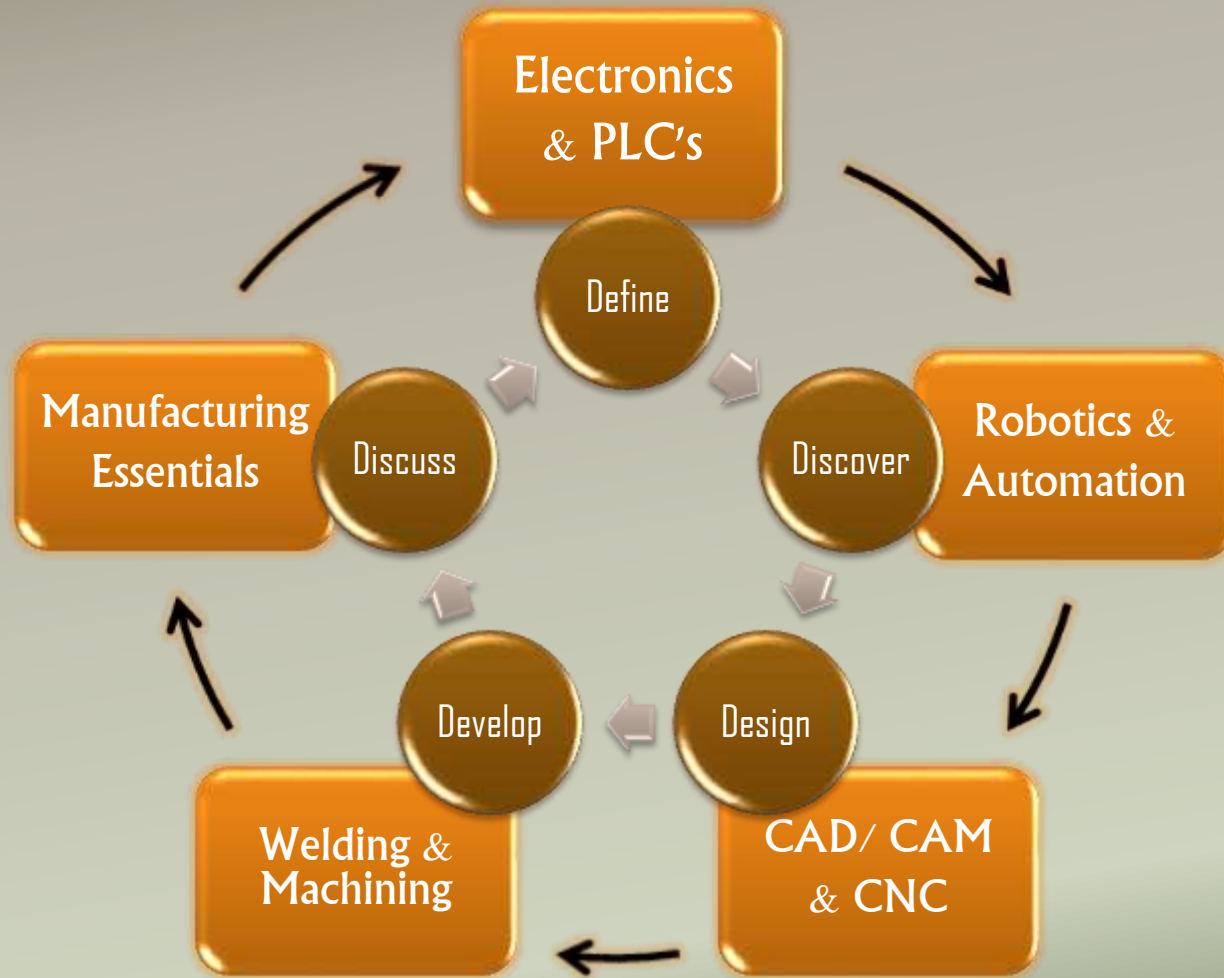
W
I
R
E
D





W.I.R.E.D. is a one year course intended to introduce students to the research, design, and development of manufactured products using advanced technologies and principles.

Engineering Design Model Concept

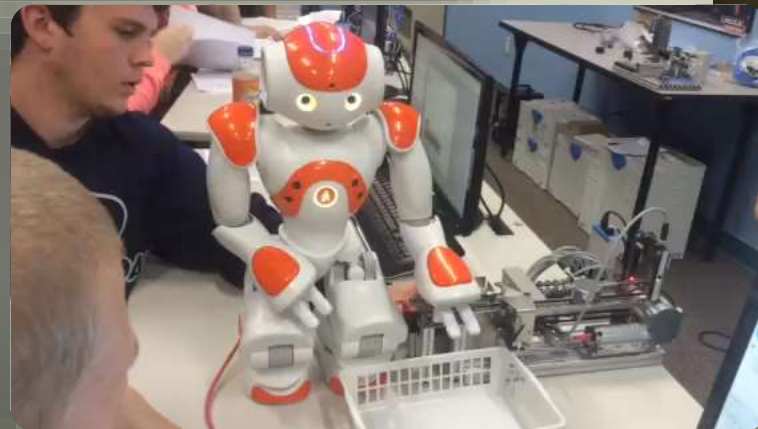
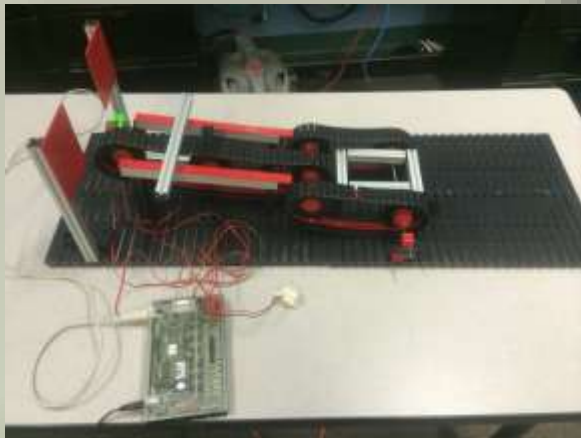
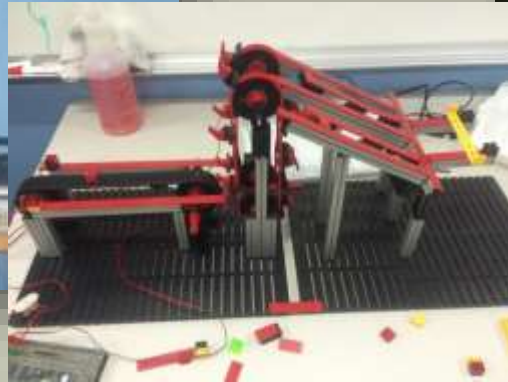


Welding. Innovation. Robotics. Engineering. Design

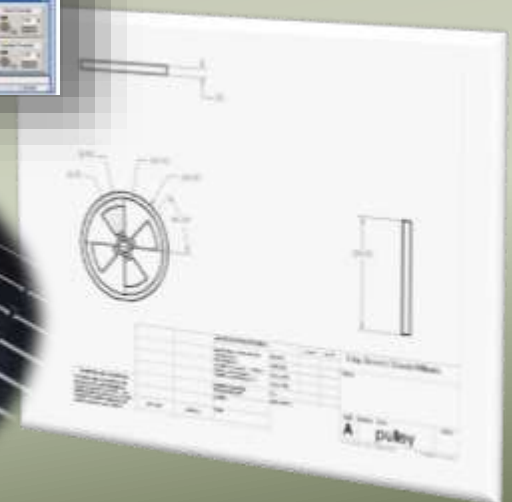
The First WIRED Class



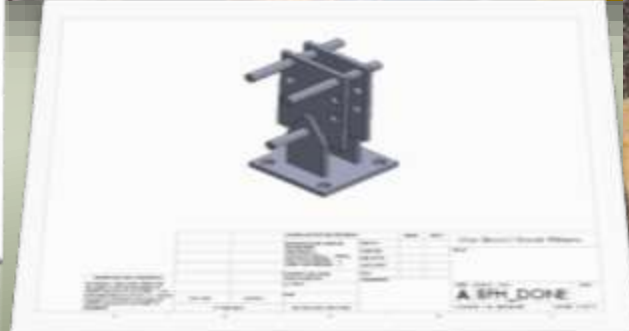
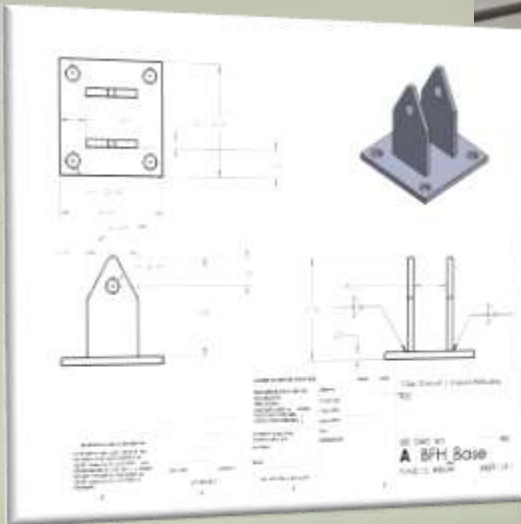
Robotics & Automation



CAD, CAM, & CNC

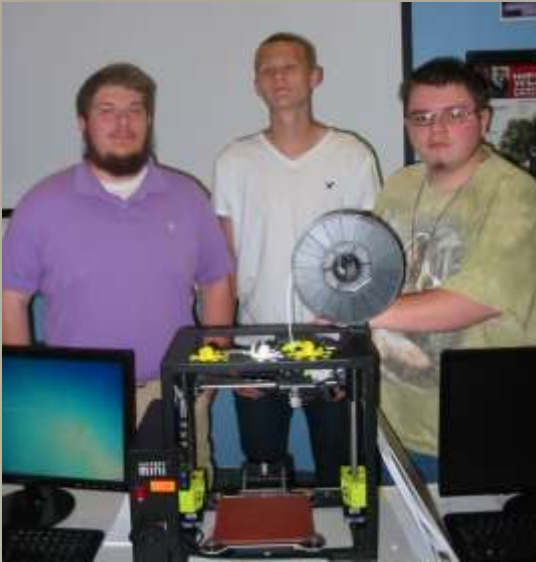


Welding & Machining



Manufacturing Essentials

Additive/ Subtractive Manufacturing

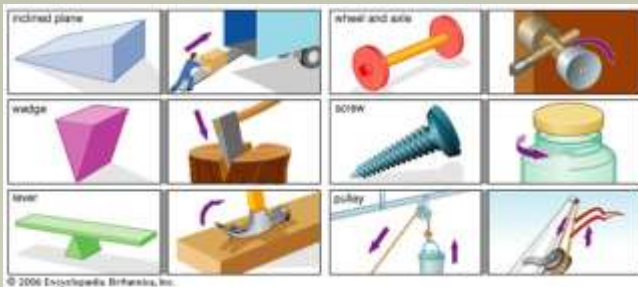


Manufacturing Essentials

Stark-Goldberg Project

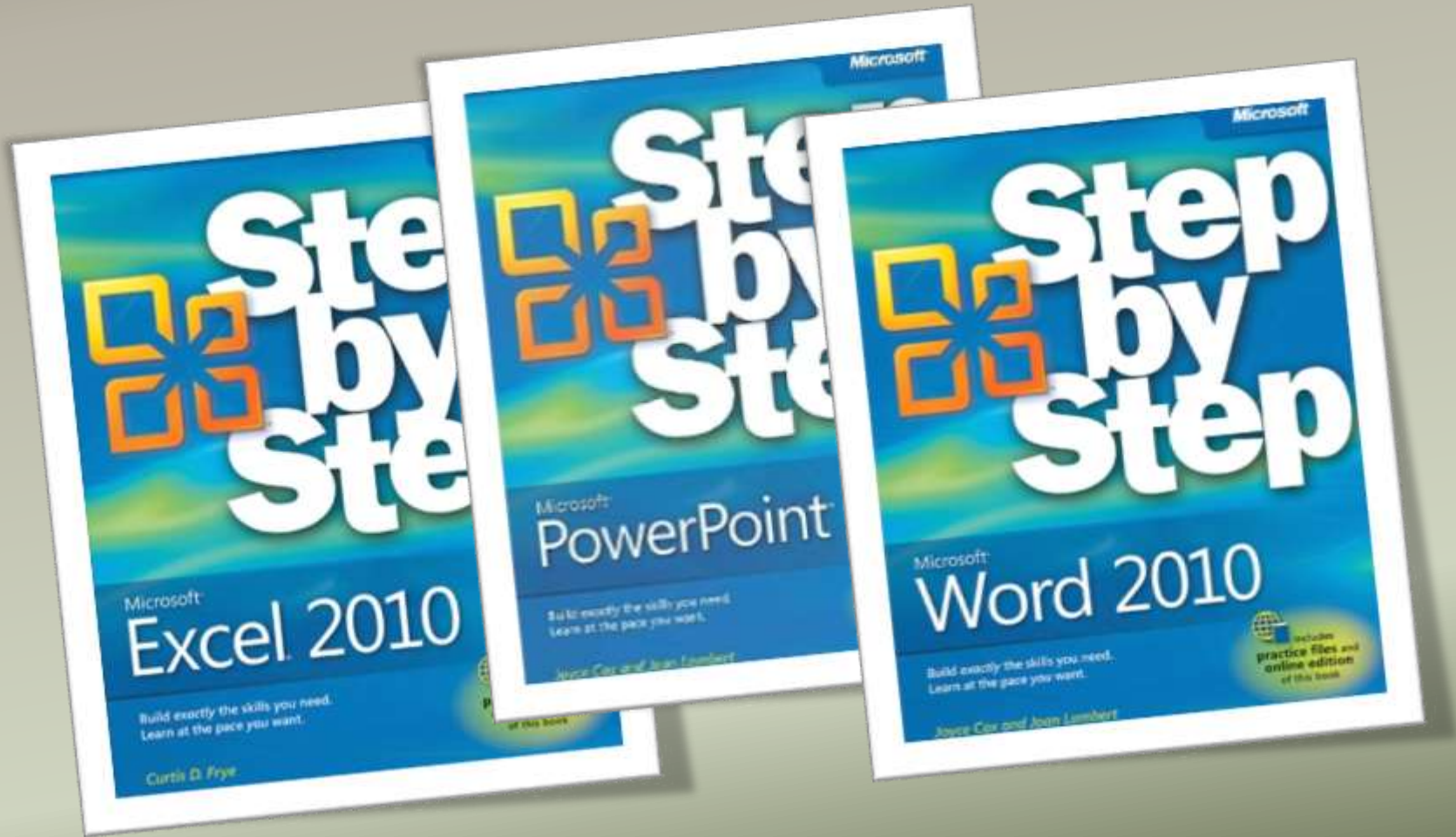


The Stark Goldberg Design Project



Manufacturing Essentials

Office Skills



College & Career Ready

Guest Speakers

Field Trips

Industry Certifications



Mock Interviews



Dual Credits



Purdue Moves Update

The Purdue Polytechnic Institute

Transforming the College of Technology

Works Council Presentation
June 3, 2015

The Purdue Polytechnic Institute

- The Purdue Polytechnic Institute is one of ten academic colleges at Purdue University.
- The Polytechnic embodies the ideals of the land grant university shaped specifically for the needs of the 21st century.
- Formerly known as the College of Technology.
 - 3800 students in West Lafayette and 1000 at our eight Statewide Locations.
 - Will grow to 4600 students in WL and 2000 at Statewide



The 21st Century Polytechnic

- Shaped by four key facts:
- The economy has changed from the industrial age to an information and digital era where knowledge integration, innovation, and unstructured collaborative problem solving are key skills.
- The students have changed. The current generation of students is different in what they know, how they learn, and what they aspire to.
- The place and role of higher education in society has changed from its roots in the industrial age. The expectations for higher education has changed as accessibility, affordability and the need for degree programs that prepare graduates for high-wage high-skill jobs and lifelong learning.
- The need to integrate the humanities, math and science to foster learning in context and assessing mastery of student learning through competency-based assessment.



Key Findings for Survey of Employers

- **Intellectual and Practical Skills**

- Critical thinking and analytic reasoning 82%_v
- Complex problem solving 81%_v
- Written and oral communication 80%_v
- Information literacy 72%_v
- Innovation and creativity 71%_v
- Teamwork skills in diverse groups 67%_v
- Quantitative reasoning 55%_v



Key Findings for Survey of Employers*

- **Integrative and Applied Learning**
 - Direct experiences with community problem solving 86%
 - Applied knowledge in real-world settings 78%
 - Broad knowledge in the liberal arts and sciences 80%

*Hart Research Associates. It takes more than major: Employer priorities for college learning and student success.



THE POLYTECHNIC EXPERIENCE



The Polytechnic Experience

- A new university curriculum started with the goal to prepare a highly skilled workforce for the knowledge- and thinking-based economy of the 21st century.
 - **35 degree options**
 - Information Technology
 - Construction
 - Aviation & Transportation
 - Mechanical, Electrical, Industrial and Manufacturing
 - Computer Graphics, Media, and HCI
 - Organizational Leadership



A Few of the New Degree Options

- Computer Security & Forensics
- Advanced Manufacturing Technology
- Mechatronics Engineering Technology
- Robotics Engineering Technology
- Advanced Manufacturing
- Supply Chain Management Technology
- Transdisciplinary Studies in Technology (competency-based)
- Aerospace Financial Analysis
- Airport Management and Operations
- Unmanned Aerial Systems
- Demolition and Restoration Management in the Built Environment
- Healthcare Construction Management
- Health & Healthcare Technology
- Human-Centered Design and Development

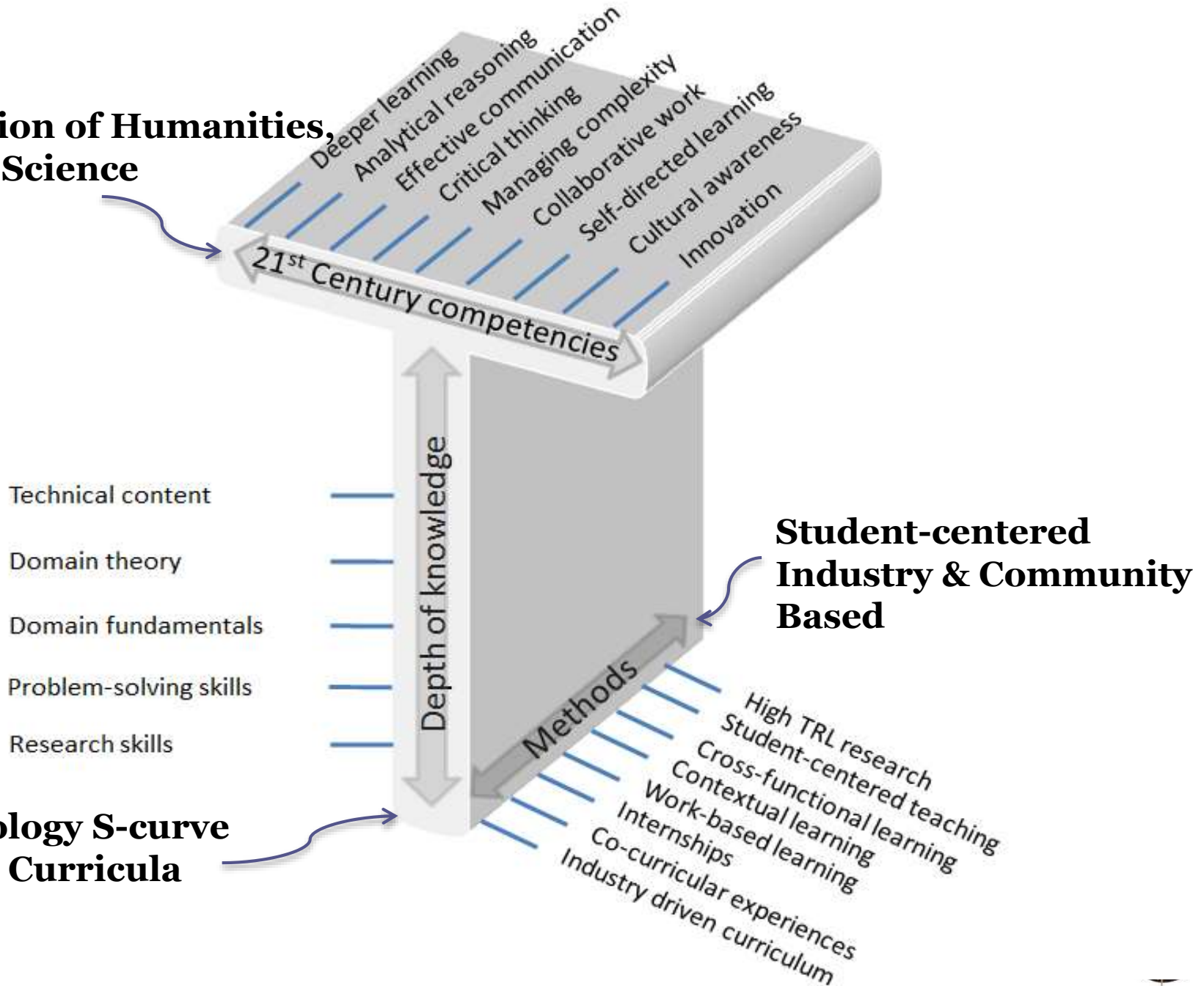


Preparing the T-shaped Professional

- Preparing the "T-shaped" graduate:
 - the combination of deep "vertical" knowledge in a particular technical domain with a broad set of "horizontal" skills such as teamwork, communications, competence with data and technology, and advanced literacy skills.



Integration of Humanities, Math, & Science



Technology S-curve Driven Curricula

Preparing the T-shaped Professional

- The horizontal skills are gained from:
- Required internships and industry sponsored senior capstone projects primarily with Indiana companies.
- Geanie Umberger, Associate Dean for Engagement leads this effort.
 - gumberger@purdue.edu
 - 765-496-3723

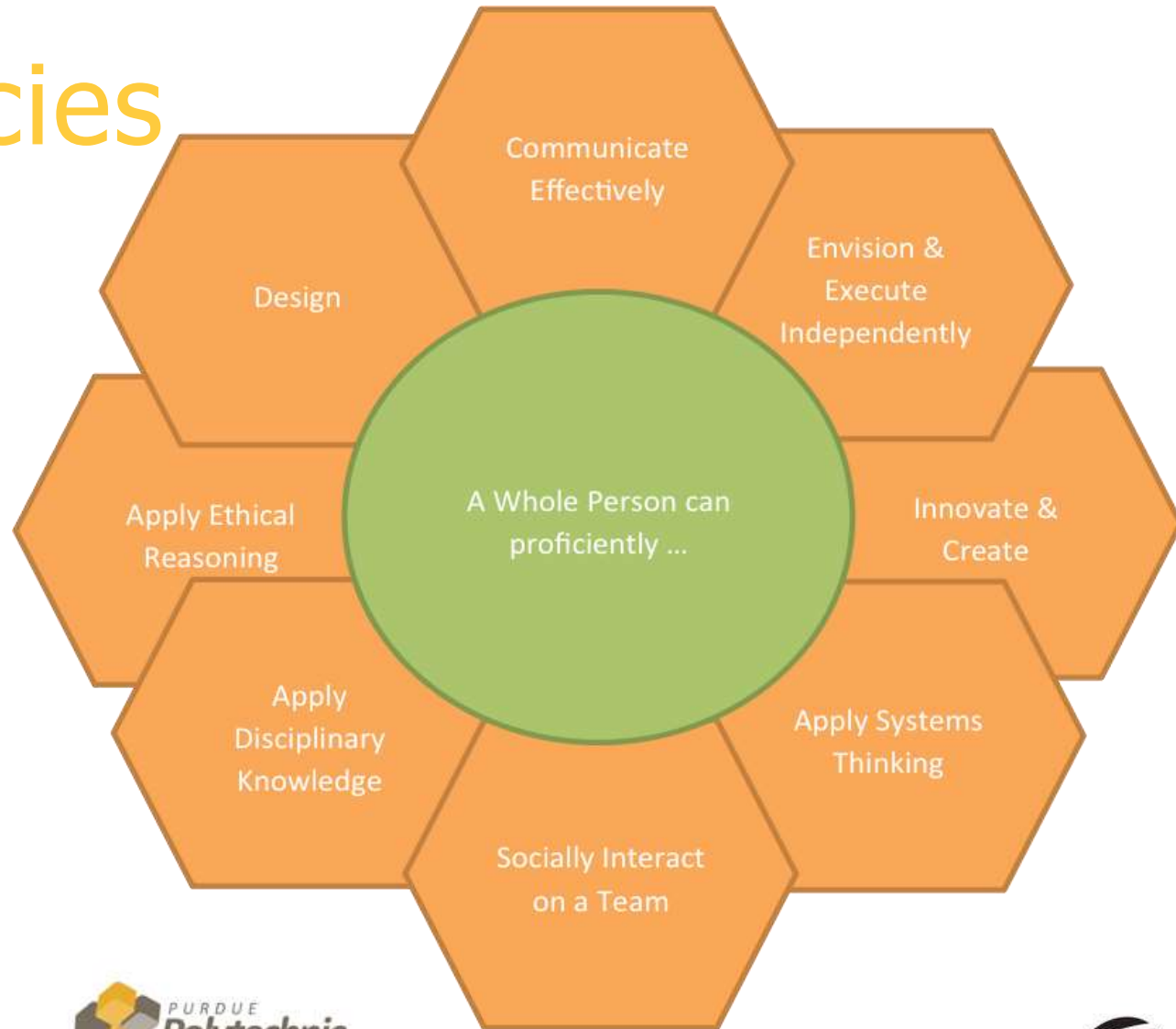


Preparing the T-shaped Professional

- Learning focuses on practicing and gaining mastery:
 - lifelong learning, unstructured problem solving, collaboration and teamwork, effective communication, and ethical decision-making and action.
- A Polytechnic education network through the 8 Statewide Technology campuses.
- The Purdue Polytechnic competency-based degree options will provide a greater number of industry ready graduates prepared for a new thinking economy.

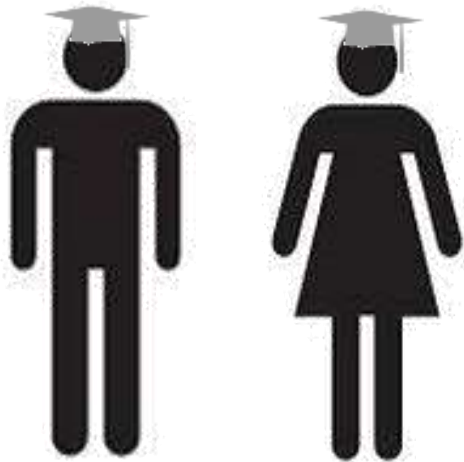


8 Primary Competencies

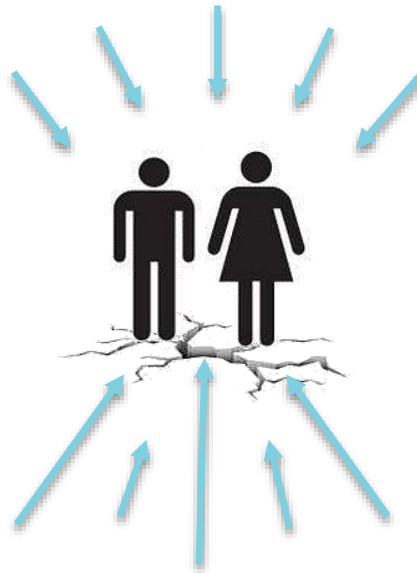


RESULTS TO BRING

Graduates meeting the evolving workforce needs of industry and community.



Learning environment that is student-centered with ground breaking teaching and learning techniques.



Student experiences closely tied to industry and community.



Outcomes

- To prepare the 21st century workforce needs for a the growing technology-based economy.
- Graduates that can immediately be productive.
- Deep technology skills blended with advanced literacy skills.
- Life-long learners that will grow with the needs of the company.



Questions?





Pathways Taskforce

Promoting Connections in the Talent Development Pipeline

Webinar Presentation

June 3, 2015

What is the Pathways Taskforce?

- * The Pathways Taskforce was established by the Career council in June 2014 as one of three taskforces charged with implementing various components of the Indiana Career Council strategic plan.
- * The Pathways Taskforce is chaired by the Lieutenant Governor and is made up of business, education, human services and workforce development leaders.
- * In January, some of the duties of the Sector Strategies Taskforce were transitioned to the Pathways Taskforce.

Pathways Taskforce Initiatives

1. Identify Priority Occupations and Employment Sectors
2. Develop and Disseminate Framework for Sector Strategies/Partnerships
3. Career Counseling and Pathway Development
4. Expansion of Work Based Learning
5. Integrated/Coordinated Career Pathways from k-12 into the Workforce
6. Success of Completion Bonus and Return-to-Complete Higher Education Programs

Identification of Priority Sectors and Occupations

- * After looking at several publications regarding sectors and occupations that drive Indiana's economy, the Pathways Taskforce has put forth a resolution that calls for the Indiana Department of Workforce Development to look at a multifaceted approach to the identification of priority sectors and occupations.
 - * DWD will work in conjunction with employers to identify “Priority Now” sectors and occupations using criteria of: demand, supply and wage analysis
 - * DWD will work in conjunction with employers and IEDC to identify “Priority Future” sectors and occupations that will emerge as technology develops.

Sector Partnership Framework

- * Working with the Center of Excellence in Leadership of Learning (CELL), a sector partnership framework has been presented to the Pathways Taskforce.
- * Various stakeholders from across the state reviewed and provided their feedback.
- * The framework provides guidance on developing sector partnerships and funding activities to support the partnership.
- * CELL will release an RFP later this summer to provide sector partnerships with support.
- * DWD has applied for a grant through the USDOL around sector partnerships as well.

Career Counseling

- * Working in conjunction with IDOE and CHE, DWD has put forth a number of career counseling strategies that will help create a more unified career counseling system in regard to conversations around in-demand occupations and career pathways.
- * The pathways taskforce was asked to look through these strategies and provide feedback.
- * IDOE has asked DWD to provide a “State of the Workforce” update for k-12 counselors and this is something that will be provided this upcoming school year.

Expansion of Work-based Learning

- * Within the Strategic Plan the Career Council established a goal of creating 10,000 more work-and-learn opportunities.
- * The Career Council's Pathways Taskforce partnered with Thomas P. Miller and Associates to create "A GUIDE TO TALENT ATTRACTION AND DEVELOPMENT FOR INDIANA EMPLOYERS" that was debuted at the BioCrossroads Framework event and has been shared with employers since.
- * There are a number of other programs happening around work-and-learn opportunities, including the Lieutenant Governor's sponsorship of the internship program at the State Fair.

Career Pathways

- * There have been many discussions around career pathways.
- * The taskforce has developed a definitions document that clearly articulates the difference between career pathway programs of study and a career pathways system.
- * CELL is partnering with NC3T and has presented on a plan to provide technical assistance to the regions to expand high quality pathway programs of study into a broader pathways system that is accessible to learners across varying education levels.

Return and Complete

- * Return and Complete is an initiative driven by CHE aimed at the 750,000 Hoosiers that have some college but no degree.
- * CHE has put together a taskforce to begin looking at barriers for this population and through recent legislation is working with postsecondary institutions to contact former students that did not complete their degree.

Questions

- * Any questions or concerns?
- * Contact: PJ McGrew
- * pmcgrew@dwd.in.gov

Thank You

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