



# Region 1 Works Council

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## Evaluation of Career and Technical Education Opportunities

11/1/2013

## Executive Summary

The Region 1 Works Council undertook a review of existing CTE programs, most current data available of economic drivers by county, and preliminary review of gaps to provide a skilled workforce to provide the employment needs for this Region. Also, the Region 1 Works Council has begun a review of whether CTE programs are appropriately meeting the needs of economic drivers within the Region. There are some preliminary indicators that have revealed major gaps, weakness and opportunities for future development. Some examples of major initial gaps are adequate funding, alignment between pathways and need for industry partnerships. The Region 1 Council will continue to conduct a further in-depth review.

Region 1 has a very diverse area. The area includes urban, metropolitan, suburban and rural areas. According to the 2011 Census, Lake County is the most heavily populated area with 994.1 persons per square mile over a land area of 498.96 square miles. The majority of the population resides in the northern urban area which is also the heaviest industrialized area in the county and region. It also happens to be the most diverse in terms of ethnicity, race, and socioeconomic status. The southern third of Lake County is more rural with little industry.

Statistics from the 2011 Census:

County	Indiana	Lake	Porter	LaPorte	Starke	Jasper	Newton	Pulaski
Land Area	35,826.11	498.96	418.15	598	401.76	559.63	309.13	433.65
Person/ Sq. Mile	181.0	994.1	393.0	186.3	75.6	59.8	35.5	30.9
BS+ Age 25	22.7	19.5%	16.2%	17%	11.3%	14.3	8.1%	15.2%
HS Graduate	86.6	86.5	93.5	85.5	86.8	87.5	86.8	85.3
Language Other than English	7.9	14.2	4.0	5.9	3.0	4.3	4.1	1.3
Foreign Born	4.5	6.7	1.7	3.2	1.5	2.1	2.9	0.4
White Non Hispanic	81.0	55.0	91.2	80.9	94.7	92.2	92.5	94.9
African American	9.4	25.8	0.5	11.1	0.4	0.8	0.7	0.9
Hispanic / Latino	6.3	17.4	8.9	5.7	3.4	5.5	5.7	2.7
Persons Below Poverty	14.1	16.6	9.6	15.2	16.5	7.7	11.3	16.6

The metropolitan and urban centers of Lake, Porter, and LaPorte Counties, where the heaviest population occurs, have career and technical centers for high school students as well as post secondary institutions. The rural areas of South Lake County, Newton, Jasper, Pulaski, and Starke struggle to provide the level of career, technical and post secondary experiences available to students as compared to the more populated and industrialized areas. Students in the outlying areas do not have the same opportunities for skill acquisition in career and technical courses as students in the more populated areas, even though they are likely to travel to the industrialized areas for purposes of employment. On the other hand, those same travel demands can be a barrier to students while in secondary programs. The lack of industrialization in the outlying areas further compounds the problem of partnerships and potential partners for funding and equipment as industry tends to support the educational partners in their own location. Therefore geography is a determining factor in whether or not students have access and support for skill attainment in the identified industry clusters in our region.

### **CTE PATHWAYS OFFERED AT EACH CTE CENTER OR HIGH SCHOOL IN REGION #1:**

Following is preliminary data gathered for November 1, 2013 Report. This data needs continued review to determine if it is a complete pathway by CTE district. Further information will be reviewed to explore enrollment data within CTE districts and overall enrollment date of each school district within each CTE district. More importantly, further study needs to occur to review those pathways that are fully developed and other pathways that need more development.

Multiple pathways are available throughout the region, particularly in Lake, Porter and LaPorte Counties, to cover a broad range of career interests of students. In reviewing the pathways, it was also noted that a good number of pathways are available in the rural counties of Newton, Jasper, Stark, and Pulaski. The challenge is whether an Area Career and Technical Education District was able to have sufficient enrollment to have the entire pathway available to students. Historically, Area Career and Technical Education Districts and high schools have tried to balance what careers students are interested in exploring/pursing versus what career areas are in the highest demand. Due to cuts in educational funding over the years, many high schools have eliminated the industrial technology classes that served as a good foundation to students gaining interest into the more high demand skilled trade career areas. Area CTE Directors have done their best to ensure that programs have high quality and are properly equipped. Another important factor is ensuring that a program is not duplicated at a high school that may result in eliminating a program that all schools were attending at the Area Career Center.

### **REGIONAL EMPLOYMENT SECTOR INFORMATION**

The work of the Region 1 Works Council is a key component of the READY NWI (Regional Education/Employer Alliance for Development of Youth in NW Indiana) initiative. READY NWI is a grassroots initiative started in 2010 with the involvement of employers, k-12 educators, post-secondary institutions, and economic and workforce development professionals. In 2011 the READY NWI plan was adopted for the entire 7-county region and is

currently being implemented by participating schools and employers in the region. The initiative was launched and continues to operate under the broader regional economic development planning and coordination framework, now known as *One Region*.

The overall mission of READY NWI is to accelerate year-to-year progress in achieving our workforce readiness goals by engaging students in exploration of a wide array of educational and occupational choices that lead directly to success in employment and with post-high school degree and credential attainment. The driving goals are to have:

- **80%** of adult labor force with post-high school credentials by 2025
- **60%** of adult labor force with 2-year or 4-year degrees by 2025
- **100%** of students graduating from high school directly entering post-high school training and education
- **100%** of students entering college without the need for remedial courses.

These goals can only be achieved by continuing to provide specificity on employers' skill needs, current CTE program outputs, and filling gaps in the talent pipelines, which aligns directly with the mission of the Region 1 Works Council. The READY NWI organizational structure includes four active Work Teams that will all intersect with the Works Council mission and work:

- ***Leadership Team/Governing Board*** that approves goals, monitors progress metrics against the plan, and ensures connectedness to the broader economic development efforts of the region
- ***K-12 Team*** charged with working with each of the other teams to maximize opportunities and to ensure students are college and career ready utilizing a common assessment process and outcome standards for college and career readiness to be employed region-wide
- ***Higher Education Team*** charged with creating strategies in tandem with other teams to reduce remediation needs by high school students, accelerating opportunities for early college credits, strengthening career pathways to ensure college graduates are career ready and prepared for lifelong learning
- ***Career & Technical Education (CTE) Team*** charged with working with Employer Engagement Team to create priorities for students, to increase the number of students receiving industry certifications and college credits, reducing the need for remediation and building a model career pathway structure that ties employers and post-secondary schools to sector-specific models
- ***Employer Engagement Team*** charged with increasing public awareness of job opportunities and skill needs, working collaboratively with the K-12 team to create new approaches to connecting employers directly to schools, and tying together the mutual needs and interests of educators and employers to support college and career readiness for our students.

A primary strategy for READY NWI is the assessment and counseling process now being implemented in 13 school districts in Region 1 linked to increased exploration of a wide range of career options, with a special emphasis on CTE career pathways. The READY NWI Work Teams will work closely with the Region 1 Works Council, with the Employer Engagement Team sharing information with the Works Council on

specific sector-based skill needs, and the CTE Team providing information and strategy recommendations to the Works Council from the perspective of the region's CTE program directors. In addition, the Higher Education Team will be able to work with the group on smooth transitions to post-high school training tied to career pathway in the key business sectors. The disconnect between high school and college-level CTE paths for students has been identified as a major issue.

READY NWI is currently implementing a Math Improvement Project funded through Spring 2014 by an Innovation Fund grant from the Indiana Department of Education. The grant is aimed specifically at improving teaching capacity and student achievement in STEM disciplines. Employers and colleges have cited math and science deficiencies as a readiness issue for both college and careers in the region.

Through the READY NWI partnership and the staff support from the Center of Workforce Innovations (CWI), Region 1 has a solid base advancing the skills readiness of our region's students as we work closely with the region's employers to "bring opportunities to life" for our students. A historic problem with promoting many of the high-quality CTE career pathways are misconceptions of students and their parents about the type of work available in key sectors such as manufacturing. To assist in student and parent awareness, CWI is currently producing 25 videos featuring employers in their workplaces in key sectors that have ongoing skill needs. Those videos, along with discussion guides and employer representatives in the classroom, will be available for use by all the region's schools beginning next year.

## **SUMMARY OF ANALYSIS AND NEXT STEP**

### **CTE PATHWAYS IN REGION 1**

#### **1. Area Career & Technical Education District 1 includes School City of East Chicago:**

##### **Career & Technical Courses available at Central High School:**

Architectural Drafting & Design  
Commercial Photography  
Construction Technology  
Criminal Justice  
Culinary Arts & Hospitality  
Graphic Design & Layout  
Health Science Careers I  
Radio & Television

*\*An Engineering PLTW Pathway is available at this school*

**2. Area Career & Technical Education District 2 include School City of Hammond, School Town of Highland, School City of Whiting, Lake Central School Corporation, Griffith Public Schools, School Town of Munster, Lake Station School Corporation, and Lake Ridge Schools**

**Area Career Center Programs: (All Schools)**

Auto Technology I & II  
Building & Facilities Maintenance I & II (2014-2105)  
Collision & Refinishing Technology I & II  
Computer Information Technology I & II  
Construction Technology I & II  
Cosmetology  
Criminal Justice & Law I & II  
Culinary and Pastry Arts & Hospitality I & II  
Dental Assisting I & II  
Early Childhood Education I & II  
Emergency Medical Services  
Fire & Rescue (2014-2015)  
Graphic Arts & Digital Imaging I & II  
Health Science Careers I  
Health Science Careers II: Nursing  
Industrial Maintenance/Welding I & II  
Multimedia Broadcast Academy I & II

**Lake Central High School Managed Programs:**

Auto Services Technology  
Graphic Imaging Technology  
Precision Machine

**Whiting High School Managed Program:**

Industrial Repair & Maintenance (Ivy Tech)

**Pre-Engineering PLTW Pathways available at the following high schools:**

Calumet New Tech High School (Biomedical also)  
Clark High School  
Gavit High School  
Hammond High School (Plus Biomedical)  
Highland High School (Plus Biomedical)  
Morton High School (Plus Biomedical)  
Munster High School (Plus Biomedical)  
Whiting High School

**Advanced Manufacturing courses are available at the following schools:**

Calumet New Tech High School  
Clark High School  
Highland High School

**Introduction to Manufacturing is available at the following school:**

Lake Central High School

**Business Administration Pathways are available at the following schools:**

Calumet New Tech High School  
Clark High School  
Edison High School (Plus Marketing)  
Gavit High School  
Griffith High School  
Hammond High School  
Highland High School  
Lake Central High School (Plus Marketing)  
Morton High School  
Munster High School (Plus Marketing)

**3. Area Career & Technical Education District 3**

**School Corporations: Gary Community School Corporation, Merrillville  
Community School Corporation, & River Forest Community School Corporation**

**Gary Area Career Center**

Auto Collision Technology  
Auto Repair Technology  
Business & Marketing  
Certified Nursing Assistant  
Cisco Academy  
Computer Drafting/Design  
Cosmetology  
Culinary Arts  
Early Childhood Education  
Engineering and Technology  
Graphics and Design  
Law Enforcement  
Radio/TV  
Residential Construction  
Welding Technology

**Merrillville High School**

Business Administration (Plus Marketing)  
Construction Technology  
Early Childhood Education

**4. Area Career & Technical Education District 4 includes Tri-Creek School Corporation, Hanover School Corporation, and Crown Point School Corporation**

**Crown Point High School**

Architectural Drafting & Design  
Automotive Service  
Business Administration (Plus Marketing)  
Construction Technology (@ Hanover Central)  
Culinary Arts & Hospitality  
Precision Machining  
Visual Communications

**Hanover Central High School**

Business Administration (Plus Marketing)  
Culinary Arts & Hospitality Management  
Emergency Medical Services  
Engineering PLTW (Plus Biomedical)

**Lowell High School**

Agriculture  
Automotive Service  
Business Administration  
Construction Technology (@ Hanover Central)  
Criminal Justice  
Engineering PLTW  
Health Science Careers  
Health Science Careers: Physical Therapy  
PC Networking & Support  
Radio & Television

**5. Area Career & Technical Education District 5 includes School City of Hobart, MSD Boone Township, Porter Township, Union Township School Corporation, Duneland School Corporation, Portage Township Schools, Valparaiso Community Schools, East Porter County Schools**

**Available Programs:**

**Porter County Tech Center**

Auto Technology  
Business Ownership Lab/Sports and Entertainment Marketing  
Computer Aided Design & Animation  
Construction Technology  
Electronics & Computer Technology  
Health Careers  
Health Occupations  
Marketing Internship  
Modern Machining Technology  
Video Production & Media Studies

**Off-Site Programs**

Cosmetology  
Early Childhood Education  
Welding Technology

**Hobart High School**

Biomedical Engineering PLTW  
Cisco Networking  
Early Childhood Education  
Emergency Medical Services

**Portage High School**

Automotive Services Technology  
Construction Technology  
Dental Careers  
Diesel Service Technology  
Early Childhood Education  
Graphic Imaging Technology  
Health Science  
Interdisciplinary Cooperative Education

**Wheeler High School**

Criminal Justice

**Engineering PLTW Pathways available at the following high schools:**

Hobart High School (Plus Biomedical)  
Portage High School  
Valparaiso High School  
Wheeler High School

**Introduction to Manufacturing is available at the following school:**

Chesterton High School  
Portage High School  
Valparaiso High School

**Business Administration Pathways are available at the following schools:**

Chesterton High School  
Hebron High School  
Hobart High School (Plus Marketing)  
Portage High School  
Washington High School

**6. Area Career & Technical Education District 6 includes Michigan City Area Schools, Tri Township School Corporation, MSD of New Durham, New Prairie United School Corporation, South Central School Corporation, and LaPorte Community Schools**

Available Programs:

**A.K. Smith Career Center**

Advanced Manufacturing Technology  
Agricultural Sciences & Natural Resources  
Automotive Services Technology  
Construction Technology  
Cosmetology  
Culinary Arts Academy  
Criminal Justice & Law  
Early Childhood  
Electronics Technology  
Energy Academy (2014-2015)  
Engineering (Project Lead the Way)  
Facility Maintenance  
Health Careers Academy  
Horticulture (2014-2015)  
Transportation, Distribution, and Logistics (2014-2015)  
Welding Technology

**LaPorte High School Managed Program:**

Construction Technology

**New Prairie High School Managed Program:**

Construction Technology

**Pre-Engineering PLTW Pathways available at the following high schools:**

LaPorte High School  
Michigan City High School  
New Prairie High School (Plus Biomedical)  
South Central High School

**Advanced Manufacturing courses are available at the following schools:**

LaCrosse High School  
New Prairie High School  
South Central High School

**Introduction to Manufacturing is available at the following school:**

South Central High School

**Business Administration Pathways are available at the following schools:**

Michigan City High School  
New Prairie High School  
Westville High School

**Agriculture Pathways are available at the following schools:**

South Central High School  
Westville High School

**10. Indian Trails Career Cooperative includes: Twin Lakes School Corporation, Kankakee Valley School Corporation, Rensselaer Central Schools, North Newton School Corporation, North White School Corporation, West Central School Corporation, Carroll Consolidated School Corporation, Delphi Community School Corporation, Frontier School Corporation, Tri-County School Corporation, and South Newton School Corporation**

*Of the list above, these are the high schools located in Region 1 and pathways available at each high school*

**North Newton High School**

Agriculture  
Business Administration  
Cosmetology  
Culinary Arts  
Early Childhood Education  
Web & Digital Communications

**Rensselaer Central High School**

Agriculture  
Automotive Service  
Cosmetology  
Drafting and Design  
Early Childhood Education  
Engineering PLTW  
Health Science Careers (Nursing & Health Care Specialities)  
PC Networking & Support  
Welding (Not running in 2013-14 due to not finding an instructor)

**South Newton High School**

Business Administration  
Cosmetology  
Early Childhood Education  
Engineering PLTW  
Health Science Careers  
PC Networking & Support  
Veterinary Careers  
Welding Technology

**West Central High School**

Agriculture  
Business Administration  
Cosmetology  
Early Childhood Education  
Engineering PLTW  
Health Science Careers  
Welding Technology

**11. North Central Area Voc Cooperative includes Culver Community Schools, Oregon Davis School Corporation, North Judson-San Pierre Schools, Knox Community School Corporation, Argos Community Schools, Plymouth Community Schools, Triton School Corporation, John Glenn School Corporation, Union-North United School Corporation, Rochester Community Schools**

*Of the list above, these are the high schools located in Region 1 and pathways available at each high school*

**North Judson High School**

Agriculture  
Automotive Service Technology  
Cosmetology  
Criminal Justice  
Early Childhood Education  
Electronic and Computer Technology  
Health Science Careers  
Visual Communications  
Welding Technology

**Oregon-Davis High School**

Agriculture  
Automotive Service Technology  
Construction Technology  
Early Childhood Education  
Visual Communications

**DUAL CREDIT OPPORTUNITIES AVAILABLE – Listed at end of report**

**CTE ARTICULATION TO POSTSECONDARY OPPORTUNITIES**

Many Area Career & Technical Education Districts have dual credit opportunities available in the college and career pathways located at the career centers and at the individual high schools.

There is a need for local secondary education pathways that articulate to post-secondary programs. For example, opportunities are needed at the secondary level, to allow students to begin working toward Ivy Tech's Industrial and Energy Technology degrees.

Skills gained through these programs are transferrable to positions in the energy related fields and other advanced manufacturing areas. Since mechanical and electrical skilled technicians are in high demand, it would be advantageous for there to be alignment between secondary schools and post- secondary institutions in this pathway. Further investigation needs to be conducted to identify and implement secondary programs in areas there is such a critical need, and how we might accelerate interest and opportunity in these areas.

The Carpenters Union just launched the “Career Connection” Program, to bring entry level Apprenticeship training to CTE in Michigan City. This innovative model allows for opportunities for direct admission to an Apprenticeship in one of four Carpentry Pathways. Students who ultimately complete an apprenticeship also earn an A.A.S. degree in Carpentry from Ivy Tech.

## **REGIONAL EMPLOYMENT SECTORS**

According to data collected by the professors and community leaders for the Regional Economic Indicators Presentation in April 2013, the top industries driving the economy in Northwest Indiana are:

- Ambulatory health services
- Specialty trade contractors
- Hospitals
- Heavy and civil engineering construction
- Primary metal manufacturing
- Farming
- Petroleum and coal products manufacturing

The growth of three of the above industries – specialty trade contractors; heavy and civil engineering construction; and petroleum and coal products manufacturing – was driven by the expansion of the BP Whiting refinery. The result of this project should see the Petroleum and Coal Products Manufacturing sector of the economy increase due to the greater output facilitated by the expansion.

As this project winds down, it is likely many of the specialty trade contractors and heavy and civil engineering workforce will find jobs with the planning and construction of the Illiana Expressway. While it may not be as large of an investment as the BP Whiting expansion, the expressway is a major construction project that, like the expansion, will boost the regional economy for several years. In addition, Jasper County is home to NIPSCO’s largest coal-fired generating plant, and has experienced unique economic growth from a \$275M plant upgrade. This project provided significant economic input from repair and maintenance, concrete, fabricated metal, and professional, scientific and technical services from contractors and tradespeople across Northwest Indiana. A similar project will soon be undertaken in LaPorte County. In addition to the large expansion projects in the area, we also have local manufacturers spend millions of dollars

maintaining their current facilities. One local manufacturer spends over \$450 Million in Lake County and \$350 Million in Porter County in repair and maintenance each year.

According to data compiled by Economic Modeling Specialists, Inc. (EMSI), ambulatory health services employs 18,645 people in the region with an expected growth rate of 18.2 percent over the next five years in terms of employment. The average yearly earnings per job is \$63,000, meaning this high growth industry pays above average, sustainable wages. This industry includes out-patient specialty care services and medical groups.

Hospitals are not included in ambulatory health services; this industry is focused on private institutions that offer primarily in-patient care and surgeries. Hospitals employ 15,524 people in the region; employment data for this industry is incomplete as data disclosure issues prevent full reporting from every firm in the industry.

This industry is poised to grow 7.4 percent over the next year in terms of employment, providing an estimated 1,100 jobs to the region with an average pay of \$59,190 per job. Lake and Porter Counties will benefit most from this growth as they cumulatively employ 83 percent of all hospital workers.

Farming, the largest industry in Jasper and Newton counties, led the recovery from 2009 to 2011 in five of the seven counties. These counties are primarily rural with small manufacturing and wholesale trade companies providing the next greatest economic contribution. Due to the labor composition of this industry, accurate employment and wage data is unavailable to provide.

The most prolific industry in Northwest Indiana is primary metal manufacturing. Steel mills have been the bedrock of the economy, providing high wage jobs for generations. Today, most of that holds true: across the region, this industry employs 19,039 people at an average wage of \$114,669 per job. While a 4.3 percent contraction in terms of employment is expected over the next five years, this will be more than offset by the hiring needs to replace retiring baby-boomers. In addition, this industry is highly cyclical and can be challenging to accurately predict. We should also see some growth associated with the Illiana Expressway.

Primary metal manufacturing is especially prevalent in Lake and Porter counties and more urban and rely on primary metal manufacturing, specialty trade contractors, heavy and civil engineering, and construction for the greatest economic impact.

A big threat to economic growth is the shortage of workers with mechanical and electrical skills. As more baby boomers retire and exit the labor force, this scarcity of critical skills directly impacts some of the region's most important industries: manufacturing and utilities. However, this shortage is not unique to our state, requiring employers to import increasingly costly talent necessary from other states or countries to operate and remain competitive. Now, more than ever, high skill occupations, such as engineers, mechanics, electricians, and welders, are high demand, high wage jobs.

Unfortunately, available employment data is historical – it provides a picture of what has already happened. In order to obtain the correct alignment between education and regional employment sectors, projective data is needed. Lacking is data trends from employers forecasting turn-over and expected shortages. It will be essential to identify

major industry shifts and plans, and the skill sets needed to staff these industries and projects. Also absent from available information is data that determines whether students ultimately obtain employment within their fields of study and/or training.

In Region 1, major infrastructure upgrades are planned in energy, highway construction, railroad expansion, airport expansion, and industrial transitions to automation. There is also a shift from family farms to agribusiness. All of these will require mechanical, electrical, and engineering skills which are in high demand across the country. There are currently not enough students in the Region 1 pipeline to come close to the forecasted demand for these skills.

Also interesting to note is the impact of industry investment on job creation. For every dollar invested in primary metal manufacturing results in the creation of 3.59 jobs. A dollar invested in petroleum and coal products creates 7.39 jobs. The same investment in utilities creates 2.15 jobs and specialty trade contractors 1.75 jobs are created. The primary job creation from major utility investments is reflected in specialty trade contractors, repair and maintenance, and professional and technical services. These jobs will be in high demand in the upcoming years due to major statewide electric and natural gas infrastructure upgrades.

The most current data in the chart below from the Indiana Department of Workforce Development combined with local survey information, supports findings within this report. Of the 26,850 jobs that were projected to be added in the past five years, health care, manufacturing, construction, and professional services all saw substantial growth. Health care was the rising star of the economy, projecting to claim 23 percent of the total expected job growth. The number of openings in professional services is reflective of the jobs shortage in that industry with job growth multiplying rapidly over the five year projection. Although the actual number of jobs filled is not known, initial indications are that many positions went unfilled due to unavailable talent or delayed retirements.

Industry Openings	Cumulative Jobs		
	1 <sup>st</sup> year	3 <sup>rd</sup> year	5 <sup>th</sup> year
Health Care	1,220	3,660	6,100
Manufacturing	682	2,046	3,410
Transportation, Distribution, and Logistics	903	2,709	4,515
Construction & Trades	708	2,124	3,540
Hospitality, Entertainment, Arts, Recreation, and Tourism	613	1,839	3,065
Professional, Technical, and Scientific Services	279	837	1,395
Occupations in Demand (by multiple industries)	965	2,895	4,825
<b>TOTAL—All Industries</b>	<b>5,370</b>	<b>16,110</b>	<b>26,850</b>

*Source: Based on estimates from Long-Term Occupational Projections (2008-2018) in Northwest Indiana, Indiana Department of Workforce Development*

## **ANALYSIS OF PATHWAYS ALIGNMENT**

### **What is the degree and magnitude of the workforce challenges faced in the region?**

The future workforce challenges in Region 1 are great and of a magnitude that will take years to realign. Our economy is primarily driven by industries requiring a high level of technical skill. While current CTE programs offer technical programs, relatively few students enroll and complete them. A lack of awareness of programs and opportunities exists. The high need for post-secondary remediation among CTE graduates is also a significant issue to be overcome. The lack of available skilled workers and a sufficient pipeline of skilled workers are negatively impacting our ability to attract new business to the region.

Several areas of need were identified for further review by the Works Council for Region 1:

1. Existing Career Clusters do not provide students with the information needed to understand all of the high wage, high demand jobs in the state and region.
2. Career counseling within secondary programs appears to be weak and/or ineffective.
3. Providing opportunities for students to complete a Core 40 diploma at the Career Centers to foster greater CTE enrollment.
4. Greater analysis of career pathways within Core 40 programs as well as to analysis Core 40 course that could yield greater flexibility with standards to better encourage career and college readiness.
5. Charter school students are offered to attend career centers but may not be attending CTE Programs because of funding barriers.
6. Career Clusters and Pathways are limited and therefore do not align with the region's future highest demanded jobs.

### **How well do secondary CTE pathways outcomes align with regional industry needs?**

Overall, most existing CTE Pathways do align to jobs within either Region 1 or a neighboring state or region. There is, however, a need for review of additional Career Clusters in Energy and Engineering & Engineering Technology, as well as Industrial Maintenance. There will be hundreds of jobs in this region in these areas, and thousands across the state. These are high paying jobs that will attract and retain business to the state.

It appears as though highest enrollments numbers in regional CTE programs do not align with the skill needs in some of our major economic driver industries. For example, while valuable, Family and Consumer Science courses or Criminal Justice courses have high enrollments, are not aligned toward the preparation of students for high paying technical positions tied the area's economic drivers. This example illustrates the concern of alignment between enrollment numbers and projected need. These illustrations are not

intended to diminish vocational choices of student who choose such courses. Instead, this illustration raises questions as to how to provide more robust enthusiasm for student participation in course aligned to regional industry need. Discussions concerning this lack of alignment necessitated the Works Council to an initial identification of impediments to impact these trends.

**Does the talent pipeline available through CTE match the demand that exists in the region?**

Most of the CTE current enrollment figures do not match current and future job demands in the region. While there are some excellent programs that are supplying students to good jobs in the region, there are not enough students pursuing CTE education in these areas. It is also unclear whether there is available data to determine whether students who leave CTE programs for post-secondary programs actually complete those post-secondary programs.

**What innovative examples from CTE curricula (internships, apprenticeships, certifications, etc.) are already happening within the region?**

Ivy Tech Northwest has developed an innovative partnership with Whiting High School. Students attend Ivy Tech in East Chicago in the morning and have the opportunity to earn 30 credits and a Technical Certificate in Industrial Technology in two years. Industrial Technology has been identified by the Works Council as an area that is under represented locally in CTE programs. This particular curriculum can lead a student into an Associate's Degree into other high demand program areas. Two students graduated with Technical Certificates this spring and were hired by BP.

Another innovative example of CTE curricula is the partnership between Vincennes University and Area Career Center in Hammond. Together, the two have launched an Early College program focused on CTE. This initiative is attempting to overcome misperception that career centers are limited to technical preparation and not geared to the higher performing high school students by shifting the focus to college programming. Beginning with the 2013-2014 school year, a cohort of freshmen attend a full day at the career center. Their courses will include coursework that leads toward completing 1-2 years of college credit upon graduating from high school. Also, students have the potential of earning an associate's degree concurrent with their high school diploma. The associate degree programs align directly with high demand career areas and articulation with local post-secondary universities. Below is a brief description of the different pathways available to students:

**H.S. Diploma + Collegiate Certificate**

- Core 40 Diploma with Academic/Technical Honors
- Core Transfer Library (CTL) Courses—30 College Credits

### H.S. Diploma + Collegiate Certificate + College Credits in Career Sequence

- Core 40 Diploma with Technical Honors
- CTL Courses—30 College Credits
- Career Sequence—6 to 30 College Credits in Career Area
- Industry Recognized Certification

### H.S. Diploma + Industry Certificate Program

- Core 40 Diploma with Technical Honors
- Industry Collegiate Certificate

### H.S. Diploma + Associates Degree + Industry Recognized Certification

- Core 40 Diploma with Technical Honors
- Associate's Degree (Under Development)
  - o Computer Integrated Manufacturing (Industrial Maintenance Concentration)
  - o Computer Networking
  - o Criminal Justice
  - o Health Science
  - o Hospitality Management
- Industry Recognized Certification

Ivy Tech has also developed the pertinent curriculum already with area businesses. There needs to be an incentive to expand this type of curriculum partnering with area high schools and CTE centers.

NIPSCO is partnering with Michigan City Area Schools to implement an Energy Academy at the AK Smith Career Center, beginning in 2014-15. Modeled after similar Academies in Florida, the Academy will be designed to prepare students for further post-secondary education and employment success in the energy industry. Completion of this program will result in an industry Fundamentals Certification, as well as National Center for Construction Education and Research (NCCER) Certifications, and dual credit toward an Energy Technology Certificate or degree. An active and engaged partnership is planned to bring industry experts to the classroom, field trips to work sites, job shadowing, and internships.

### **What are the identified obstacles?**

The greatest barrier to robust CTE programming seems to center on availability of guidance for student into career pathways and CTE programming. It appears that the ratio of students to secondary guidance counselors is high and the role of secondary guidance counselors to student services to broad. Often much of the focus of guidance counselors is toward scheduling courses. Unfortunately, professional development opportunities (along with high ratios) cause further barriers to retraining efforts. Further, there are no financial incentives in place to incentivize a restructuring of the resources for

students so that college career readiness planning can begin for all students within middle school.

There existing barriers to increasing the numbers of secondary students participating in career technical programs with linkage to certificated programs. Within the secondary track, barriers exist with providing sufficient opportunities for student to pass ECA exams. Students, who must retake such courses leading to passing the ECA, miss opportunities to being participating in CTE programming. This concern could also be addressed through adequate funding for remediation to occur during summers.

Another barrier toward obtaining meaningful credential concerns that cost of testing. There are limited areas that the State of Indiana will provide funding. Determining which tests that are aligned to regional industry needs that are considered cost prohibited need to be further explored. There are gaps within career pathways that lead to college credits or getting industry certification. There are also limitation of acquired age limits or work experience and holding a high school diploma causing barriers to completing a program that leads to certification. Another barrier to expanding pilot programs is lack of funding until sufficient interest to maintain full enrollment in CTE course can be a problem.

Project Lead the Way courses have become a preferred career pathway for secondary students. In large part, this is due to reduced need and associated costs for transporting students to alternate learning sites. However these programs are expensive for each high school to maintain and properly equip. Further, shortages of properly trained teachers in some area also create barriers.

While providing more options for student to participate in programs during evenings and summer programming for expanding opportunities for students, scheduling conflicts exist with students' participation in extracurricular activities and part-time jobs. Also, due to school funding issues course offerings would be dependent upon having courses that have full capacity based on student demands.

There is concern about quality of pathways offered by the differing CTE districts and within districts. This has an impact on long term success rate of student obtaining a certification or successful post-secondary program.

Finally, there seems to be no alignment in funding priorities for course offerings and regional needs. Consideration needs to be given to a reimbursement model aligned with regional needs. There is a need for quality and accountability standards tied to the funding plan, to reduce competition for funds within districts and provide the best possible education to our students. It will be essential to incentivize the desired model through funding.

**What are the next steps the Works Council needs to take to improve CTE opportunities?**

A preliminary outline of next steps to be explored includes:

1. Make recommendations on realignment of Career Clusters and Pathways.
2. Build industry partnerships between K-12 and post-secondary to provide CTE
  - a. Ivy Tech has some of these partnerships in place
  - b. Vincennes University has established an early college CTE partnership with the Area Career Center in Hammond
3. Look for ways to improve the IMAGE of Career and Technical Education
4. Explore the barriers that keep students from participating in CTE.
5. Educate parents on the benefits of Career and Tech Education
6. Improved communication and awareness with and for parents and students
7. Consider other innovative models
  - a. Industry sector Academies

# Area Career Center

5727 Sohl Avenue  
Hammond, IN 46320  
(219) 933-2428

Mike Zimmerman  
Principal/Director  
mdzimmerman@hammond.k12.in.us

Serving Area Career and Technical District 2 and the following eleven high schools: Calumet, Clark, Edison, Gavit, Griffith, Hammond, Highland, Lake Central, Morton, Munster and Whiting.

The following dual credit and articulated credit course offerings are available during the 2012-13 school year:

**(Highlighted Courses in Process of Approval)**

High School Program	College Course #	College Course Title	College Credits	Cost of Credit to Student	Postsecondary Institution
Auto Technology	AUTO 105	Transportation Fundamentals	2	Free	Vincennes University
	AUTO 110	Transport Electrical	3	Free	Vincennes University
	AUTO 110L	Transport Electrical Lab	1	Free	Vincennes University
	AU126	Suspension & Steering	6*	Free	U of NW Ohio
	AU127	Hydraulic Brake System	6*	Free	U of NW Ohio
Collision & Refinishing Technology	AUTO 105	Transportation Fundamentals	2	Free	Vincennes University
	BODY 100/L	Body Repair I	5	Free	Vincennes University
		Body Repair Laboratory I	4	Free	Vincennes University
	BODY 150/L	Body Repair II	5	Free	Vincennes University
		Body Repair Laboratory II	4	Free	Vincennes University
Computer Information Technology	CMET 240	Computer Maintenance I	6	Free	Vincennes University
	CPNS 101	LAN Basics and OSI Model	3	Free	Vincennes University
	CPNS 102	WAN Basics and Routers	3	Free	Vincennes University
Construction Technology	<b>ARCH 102</b>	<b>Arch Drafting &amp; Print Read</b>	<b>4</b>	<b>Free</b>	<b>Vincennes University</b>
	CNST 100	Construction Seminar	1	Free	Vincennes University
	CNST 120	Construction Safety	2	Free	Vincennes University
	CNST 261	IN Res Code Fam Dwellings	3	Free	Vincennes University
Cosmetology	COSM 100	Cosmetology 1	7	Free	Vincennes University
	COSM 150	Cosmetology 2	7	Free	Vincennes University
	COSM 200	Cosmetology 3	7	Free	Vincennes University
	COSM 250	Cosmetology 4	9	Free	Vincennes University
Criminal Justice & Law	LAWE 100	Survey of Criminal Justice	3	Free	Vincennes University
	LAWE 106	Intro to Traffic Control	3	Free	Vincennes University
	LAWE 150	Intro to Criminology	3	Free	Vincennes University
	LAWE 160	Criminal Investigation	3	Free	Vincennes University
	J 101	Intro to Criminal Justice	3*	Free	Indiana University NW
Culinary & Pastry Arts & Sciences	CULN 110	Quantity Food Production	6	Free	Vincennes University
	REST 100	Intro to Hospitality Mgmt	3	Free	Vincennes University
	REST 120	Food Service Sanitation	3	Free	Vincennes University
	REST 155	Quantity Food Purchasing	3	Free	Vincennes University
	CULA 100	Concept & Theory of Culn	3*	Free	IL Inst of Art-Chicago
	CULA 105	Intro to Culinary Skills	5*	Free	IL Inst of Art-Chicago
	CULA 120	Purchasing & Product ID	3*	Free	IL Inst of Art-Chicago
	CULA 115	American Regional	5*	Free	IL Inst of Art-Chicago
	CULA 240	Internship	4*	Free	IL Inst of Art-Chicago
	CUL 1345	Intro to Bake & Pastry Arts	3*	Free	Johnson & Wales Univ
	CUL 1355	New World Cuisine	3*	Free	Johnson & Wales Univ
	CUL 1385	Fund of Food Service Prod	3*	Free	Johnson & Wales Univ
	FSM 1065	Sanitation Management	4.5*	Free	Johnson & Wales Univ
	FSM 2085	Hotel Food & Beverage Oper	4.5*	Free	Johnson & Wales Univ
	CA 112	ProStart 1 & 2 – Hosp 112	7	Free	Joliet Junior College
	CA 106	ProStart 1 & 2	3	Free	Joliet Junior College
	HOSP 100	ProStart 1 & 2	1	Free	Joliet Junior College
	HOSP 205	Intro to Hospitality	3*	Free	Mountain State
	CA 104	Safety & Sanitation	3*	Free	Mountain State
	CA 215	Banq, Cater, & Buff Prep	3*	Free	Mountain State
	CA 130	Practicum II	3*	Free	Mountain State
	HTM 100	Intro Hospitality & Tourism	1*	Free	Purdue University-Cal
	F&N 203	Foods: Their Select & Prep	3*	Free	Purdue University-Cal
HTM 191	Sanitation & Health	3*	Free	Purdue University-Cal	
CUL 125	Culinary Skills I	4*	Free	Robert Morris-Chicago	
CUL 110	Safety & Sanitation	1*	Free	Robert Morris-Chicago	
CUL 130	Culinary Skills I	4*	Free	Robert Morris-Chicago	
Dental Assisting	DAK 151	Found Skills for Dental Assist	6*	Free	Kaplan College
	DAW 151	Tech & Term Dental Assist	6*	Free	Kaplan College
	DAG 151	Patient Interact	6.5*	Free	Kaplan College

\*Articulated Credit

# Area Career Center

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Hammond, IN 46320  
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mdzimmerman@hammond.k12.in.us

Serving Area Career and Technical District 2 and the following eleven high schools: Calumet, Clark, Edison, Gavit, Griffith, Hammond, Highland, Lake Central, Morton, Munster and Whiting.

The following dual credit and articulated credit course offerings are available during the 2012-13 school year:

## (Highlighted Courses in Process of Approval)

Early Childhood Education Services	ECED 100	Intro To Early Childhood Ed	3	Free	Ivy Tech
	ECED 101	Health, Safety, Nutrition	3	Free	Ivy Tech
	ECED 103	Curriculum in Classroom	3	Free	Ivy Tech
	ECED 105	CDA Process	3	Free	Ivy Tech
Emergency Medical Services (New Program 2013-14)	EMTB 212	Emerg. Medical Tech--Basic	6	Free	Vincennes University
Graphic Arts & Digital Imaging	DESN 120	Computer Illustration	3	\$75	Vincennes University
	DESN 155	Computer Page Layout	3	\$75	Vincennes University
Health Science Education	BIOL 111/L	Anatomy & Physiology I	3	\$75	Vincennes University
	HIMT 110	Medical Terminology	3	\$75	Vincennes University
	HLHS 101	Medical Terminology	3	Free	Ivy Tech
	HLHS 100	Health Careers	3	Free	Ivy Tech
	HLHS 107	CNA Preparation	5	Free	Ivy Tech
Industrial Maintenance/Welding	WELD 103	Arc Welding I	3	Free	Ivy Tech
	WELD 108	Shielded Metal Arc Weld I	3	Free	Ivy Tech
	WELD 109	Oxy-Fuel Gas Weld & Cut	3	Free	Ivy Tech
	WELD 207	Gas Metal Arc (MIG) Weld	3	Free	Ivy Tech
Multimedia Broadcast Academy	MCOM 102	Intro Audio/Video Production	3	Free	Vincennes University
	MDIA 120	Audio Production	3	Free	Vincennes University
	MDIA 140	Video Production I	3	Free	Vincennes University

\*Articulated Credit

SOUTHLAKE COOPERATIVE (Lowell, Hanover, and Crown Point High Schools)

COURSE #	DOE#	COURSE TITLE	PREREQUISITE	POST SECONDARY
AGRI 115	5180	Natural Resource Management	None	Ivy Tech
AGRI 116	5132	Horticulture Science	None	Ivy Tech
AUTC 100	5510	Automotive Services I	None	Ivy Tech
AUTC 107	5510	Automotive Services I	PREREQUISITE: AUTC 100 Introduction to Automotive COREQUISITE: AUTC 100 Introduction to Automotive	Ivy Tech
AUTC 127	5510	Automotive Services I	PREREQUISITE OR COREQUISITES: AUTC 107 Engine Fundamentals	Ivy Tech
AUTC 109	5546	Automotive Services II	AUTC 113 Electrical and Electronics I	Ivy Tech
AUTC 113	5546	Automotive Services II	PREREQUISITE: AUTC 100 Introduction to Automotive COREQUISITE: AUTC 100 Introduction to Automotive	Ivy Tech
AUTC 122	5546	Automotive Services II	PREREQUISITE: AUTC 100 Introduction to Automotive COREQUISITE: AUTC 100 Introduction to Automotive	Ivy Tech
BCOT 104	5580	Construction Technology I	PREREQUISITE: CONT 101 Introduction to Construction Technology	Ivy Tech
BCOT 105	5578	Construction Technology II	PREREQUISITE: CONT 101 Introduction to Construction Technology	Ivy Tech
BCOT 113	5578	Construction Technology II	PREREQUISITE: CONT 101 Introduction to Construction Technology	Ivy Tech
BCOT 114	5578	Construction Technology II	PREREQUISITE: CONT 101 Introduction to Construction Technology	Ivy Tech

SOUTHLAKE COOPERATIVE (Lowell, Hanover, and Crown Point High Schools)

<b>COURSE #</b>	<b>DOE#</b>	<b>COURSE TITLE</b>	<b>PREREQUISITE</b>	<b>POST SECONDARY</b>
<b>BUSN 101</b>	<b>4562</b>	Principles of Business Management	Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76 Math: COMPASS 24 ALGE or 15 ALGE & 55 PALG, ASSET 34 EALG or 33 IALG, ACT 18, PSAT 46, SAT 460, ACCUPLACER 40 ELEM ALG or 60 ARITH	Ivy Tech
<b>BUSN 102</b>	<b>4560</b>	Business Law and Ethics	Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76	Ivy Tech
<b>CONT 101</b>	<b>5580</b>	Construction Technology I		
<b>CRIM 101</b>	<b>5822</b>	Criminal Justice I	Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76	Ivy Tech
<b>CRIM 105</b>	<b>5822</b>	Criminal Justice I	Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76	Ivy Tech
<b>CRIM 111</b>	<b>5824</b>	Criminal Justice II	PREREQUISITE: CRIM 101 Introduction to the Criminal Justice System	Ivy Tech
<b>CRIM 113</b>	<b>5824</b>	Criminal Justice II	PREREQUISITE: CRIM 101 Introduction to the Criminal Justice System	Ivy Tech
<b>ENGL 111</b>	<b>1056</b>	English Language and Composition AP	Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76	Ivy Tech
<b>ENGL 206</b>	<b>1058</b>	English Literature and Composition AP	PREREQUISITE: ENGL 111 English Composition	Ivy Tech

SOUTHLAKE COOPERATIVE (Lowell, Hanover, and Crown Point High Schools)

<b>COURSE #</b>	<b>DOE#</b>	<b>COURSE TITLE</b>	<b>PREREQUISITE</b>	<b>POST SECONDARY</b>
<b>ENTR 101</b>	<b>5966</b>	Entrepreneurship and New Ventures	Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76 Math: COMPASS 24 ALGE, ASSET 34 EALG or 33 IALG, ACT 18, PSAT 46, SAT 460, ACCUPLACER 40 ELEM ALG or 60 ARITH	Ivy Tech
<b>HIST 101</b>	<b>1542</b>	US History Honors	Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76	Ivy Tech
<b>HLHS 100</b>	<b>5282</b>	Health Science Education I	None	Ivy Tech
<b>HLHS 101</b>	<b>5274</b>	Medical Terminology (Taught within Health Science Education I/II sequence)	Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76	Ivy Tech
<b>HLHS 107</b>	<b>5284</b>	Health Science Education II	Regulations per the Indiana State Department of Health and Program Advisor Approval	Ivy Tech
<b>LAND 103</b>	<b>5136</b>	Landscape Management	None	Ivy Tech
<b>LOGM 127</b>	<b>5601</b>	Supply Chain Management and Logistics	None	Ivy Tech
<b>MKTG 101</b>	<b>5914</b>	Principles of Marketing	Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76 Math: COMPASS 24 ALGE or 15 ALGE & 55 PALG, ASSET 34 EALG or 33 IALG, ACT 18, PSAT 46, SAT 460, ACCUPLACER 40 ELEM ALG or 60 ARITH	Ivy Tech

SOUTHLAKE COOPERATIVE (Lowell, Hanover, and Crown Point High Schools)

<b>COURSE #</b>	<b>DOE#</b>	<b>COURSE TITLE</b>	<b>PREREQUISITE</b>	<b>POST SECONDARY</b>
<b>SPAN 201</b>	<b>2124</b>	Spanish III/H	PREREQUISITE: SPAN 102 Spanish Level I or demonstrated competency in Spanish through appropriate assessment Foreign Language Course Placement Spanish 50 Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76	Ivy Tech
<b>MCOM 102</b>	<b>5986</b>	Radio and Television I		Vincennes
<b>MDIA 140</b>	<b>5992</b>	Radio and Television II	ACT (R) 17 (E) 15 SAT (CR) 380 (W) 380 ACCU (R) 59 (SS) 68 COM (R) 66 (E) 52	Vincennes
<b>ECET 110</b>	<b>5230</b>	Computer Tech Support	None	Purdue University Calumet
<b>ECET 265</b>	<b>5234</b>	Networking Fundamentals	5230	Purdue University Calumet
<b>ECET 367</b>	<b>5234</b>	Networking Fundamentals	5230	Purdue University Calumet
<b>ECET 465</b>	<b>5234</b>	Networking Fundamentals	5230	Purdue University Calumet
<b>ECED 100</b>	<b>5362</b>	Child Development	Writing: COMPASS 32, ASSET 37, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 60 sentence structure Reading: COMPASS 49, ASSET 32, ACT 18, PSAT 46, SAT 460, ACCUPLACER 55	Ivy Tech
<b>ECED 103</b>	<b>5360</b>	Advanced Child Development	Writing: COMPASS 32, ASSET 37, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 60 sentence structure Reading: COMPASS 49, ASSET 32, ACT 18, PSAT 46, SAT 460, ACCUPLACER 55	Ivy Tech

SOUTHLAKE COOPERATIVE (Lowell, Hanover, and Crown Point High Schools)

<b>COURSE #</b>	<b>DOE#</b>	<b>COURSE TITLE</b>	<b>PREREQUISITE</b>	<b>POST SECONDARY</b>
<b>FRE 201</b>	<b>2024</b>	French Level III	PREREQUISITE: FREN 102 French Level II or demonstrated competency in French through appropriate assessment Foreign Language Course Placement French 53 Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76	Ivy Tech
<b>FRE 202</b>	<b>2026</b>	French Level 4	PREREQUISITE: FREN 201 French Level II or demonstrated competency in French through appropriate assessment Foreign Language Course Placement French 64 Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76 FREN 201 or Foreign Language Course Placement French 64	Ivy Tech
<b>FRE 202</b>	<b>2032</b>	French Language AP	PREREQUISITE: FREN 201 French Level II or demonstrated competency in French through appropriate assessment Foreign Language Course Placement French 64 Writing: COMPASS 70, ASSET 42, ACT English 17, PSAT 46, SAT 460, ACCUPLACER 80 sentence skills Reading: COMPASS 80, ASSET 42, ACT 18, PSAT 46, SAT 460, ACCUPLACER 76 FREN 201 or Foreign Language Course Placement French 64	Ivy Tech
<b>MATH 136</b>	<b>2544</b>	Adv. College Credit- Use syllabus	Math: COMPASS 66 ALGE, ASSET 49 EALG or 48 IALG, ACT 24, PSAT 52, SAT 520, ACCUPLACER 74 ELEM ALG <b>and</b> 1 CLM	Ivy Tech
<b>MATH 137</b>	<b>2564</b>	Pre-Cal/Trig	Math: COMPASS 66 ALGE, ASSET 49 EALG or 48 IALG, ACT 24, PSAT 52, SAT 520, ACCUPLACER 74 ELEM ALG <b>and</b> 1 CLM	Ivy Tech

SOUTHLAKE COOPERATIVE (Lowell, Hanover, and Crown Point High Schools)

**COURSE #      DOE#      COURSE TITLE      PREREQUISITE      POST SECONDARY**

<b>MATH 211</b>	2562	Calculus AB, AP	<p>PREREQUISITE: Math: COMPASS 46 CALG &amp; 46 TRIG, or ACCUPLACER 86 CLM or successful completion of MATH 131 Algebra/Trigonometry I and MATH 132 Algebra/Trigonometry II or MATH 133 College Algebra with Analytic Geometry <b>and</b> MATH 134 Trigonometry or MATH 136 College Algebra <b>and</b> MATH 137 Trigonometry with Analytic Geometry</p>	Ivy Tech
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## Dual Credits Available Through Career – Technical Classes 2013 – 2014 Porter County Career and Technical Education

A	D	E	F	G
Program	Course #	# of Crdts	Institution	Possible Certification
Auto Service Technology I Career Center & Portage	AUTC100 AUTC107	1 3	Ivy Tech	
Auto Service Technology II Career Center & Portage	AUTC 113 AUTC 122 AUTC 127	4 3 3	Ivy Tech	
CAD & Animation I Career Center <i>(exact credits under review)</i>	DESN 103 DESN 220	3 3	Ivy Tech	CSWA (Certified SolidWorks Associate)
CAD & Animation II Career Center <i>(exact credits under review)</i>	DESN 113	3	Ivy Tech	CSWA (Certified SolidWorks Associate)
Cisco Networking Fundamentals Hobart	CPNS 101 CPNS 102	3 3	Vincennes	CCNA (Cisco Certified Network Associate) CCENT (Cisco Certified Entry Network Technician)
Construction Technology I Career Center	BCOT 104 CONT 101 BCOT 114	3 3 3	Ivy Tech	
Construction Technology I Chesterton	CONT 101	3	Ivy Tech	
Construction Technology II Career Center	BCOT 105 BCOT 113	3 3	Ivy Tech	
Construction Technology II Chesterton	BCOT 105 BCOT 113 BCOT 104 BCOT 114	3 3 3 3	Ivy Tech	
Cosmetology II Don Roberts				State Cosmetology License
Criminal Justice II (Investigations) Wheeler (Crim Jus. programs can be taken in either order)	LAWE 106 LAWE 160	3 3	Vincennes	CPR/First Aid

## Dual Credits Available Through Career – Technical Classes 2013 – 2014 Porter County Career and Technical Education

Criminal Justice I Wheeler (Crim. Jus. programs can be taken in either order)	LAWE 100 LAWE 150	3 3	Vincennes	CPR/First Aid
Dental Careers	H242	1	IUN	CPR/AED/AHA through American Red Cross
Early Childhood Education I Hobart, Portage, & SELF	ECED 100 ECED 101	3 3	Ivy Tech	
Early Childhood Education II Hobart, Portage, & SELF	ECED 103 ECED 105	3 3	Ivy Tech	CDA (Child Development Associate)
Electronics & Computer Technology I Career Center	ELEC 100 ELEC 130 INDT113	5 4 3	Vincennes Vincennes Ivy Tech	ACE (Associate Certified Electronics Tech) or SET (Student Electronics Technician)
Electronics & Computer Technology II Career Center (ELEC 110 & 130 rotate being offered)	ELEC 130 INDT 103	4 3	Vincennes Ivy Tech	ETA Int'l -- Associate Certified Electronics Technician (ACE) ETA Int'l -- Student Electronics Technician (SET)
Emergency Medical Services Hobart	EMTB 212	6	Vincennes	CPR / First Aid Indiana Firefighter Basic & Mandatory EMT-B (Emerg. Med. Tech)
Entrepreneurship/Sports & Entertainment Marketing Career Center	BUSN 101 MKTG 101	3 3	Ivy Tech	ASK Institute Fundamental Marketing Concepts
Fundamentals of Sports Medicine (Health Science Education II) Hobart.				CPR/AED/AHA
Health Careers (Health Science Education I) Career Center	HLHS 100 HLHS 101	3 3	Ivy Tech	CPR/AED/AHA

## Dual Credits Available Through Career – Technical Classes 2013 – 2014 Porter County Career and Technical Education

Health Science Education I (Medical Term./Anat) Portage	HLHS 101 HLHS 100	3 3	Ivy Tech	CPR/AED/AHA
Health Occupations (Health Science Education II) Career Center	HLHS 101 HLHS 107	3 5	Ivy Tech Ivy Tech	CPR/AED/AHA – and most obtain Certified Nursing Asst. (CNA)
Horticultural Science I or Landscape Management II Morgan	HORT 105	3	Vincennes	Passport to Landscape Industry Certified (from Ind. Nursery & Landscape Assn.)
Precision Machining I Career Center	PMTD 110 with Lab PMTD 117	3 3	Vincennes	
Precision Machining II Career Center	PMTD 118	3	Vincennes	NIMS (VERY hard to accomplish)
Strategic Marketing Internship Career Center	BUSN 101 MKTG 101 or BUSN 105	3 3 3	Ivy Tech	ASK Institute Fundamental Marketing Concepts
Video Production I Career Center	MCOM 102	3	Vincennes	
Video Production II Career Center	MDIA 140	3	Vincennes	Final Cut Pro (by occasional student)
Welding I Ivy Tech	WELD 103 WELD 108 INDT 114 WELD 202 WELD 206 WELD 207	3 3 3 3 3 3		
Welding II Ivy Tech (INDT 114 replaced WELD 205 for 2012/13)	WELD 106 WELD 209 WELD 210 INDT 114 WELD 208 INDT 102	3 3 3 3 3 3		AWS
Work Study Chesterton				

## **Dual Credits Available Through Career – Technical Classes 2013 – 2014**

### **Porter County Career and Technical Education**

**Notes:**

There may be additional dual credit opportunities in the future.

Some dual credits require a certain score or scores on ACCUPLACER assessments in English, writing, and/or math. Ivy Tech transitioned from COMPASS to ACCUPLACER in October, 2012.

These dual credits count toward Academic Honors Diploma and Technical Honors Diploma.

All dual credits are offered at no charge to the student with one exception and may be transferable to other institutions. The one-credit college course in Dental Careers has a fee of \$25, which is waived for students getting lunch/textbook assistance.

A college course with a grade of C or higher may be transferred. Transcripts are maintained by Ivy Tech Community College or Vincennes University after grades are final and posted.

*10/14/2013*

*Current Dual Credit Offerings for MCHS*

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<b>Course</b>	<b>College</b>	<b>Fee* (Yes or no)</b>
English 12 - Cont Lit/Adv. Comp	PNC	Y
Adv. Art History	PNC	Y
Drawing 2	PNC	Y
French III	PNC	Y
French IV	PNC	Y
German III	PNC	Y
German IV	PNC	Y
Spanish III	PNC	Y
Spanish IV	PNC	Y
AP Calculus AB	PNC	Y
Discrete Math	PNC	Y
Pre-Calculus/Trig AH	PNC	Y
Chemistry II	PNC	Y
AP U.S. History	PNC	Y
AP U.S. Government	PNC	Y
Adv. Speech	PNC	Y
Adv. Life Science Animals	Purdue	Y
AP Music History	PNC	Y
Business and Personal Law	IVY Tech	N
Sports/Rec Marketing	IVY Tech	N
Introduction to Engineering Design (IED)	IVY Tech	N
Principals of Engineering (POE)	IVY Tech	N
Digital Electronics	IVY Tech	N
Civil Engineering and Architecture	IVY Tech	N
Web Page Design	IVY Tech	N
Computer Programming 1&2	IVY Tech	N
<i>*Students on free and reduced lunch are not charged tuition.</i>		

**CAREER & TECHNICAL EDUCATION  
DUAL CREDIT COURSES**

Students at A.K. Smith Area Career Center can earn college credit.  
Ivy Tech credits are no cost to A.K. Smith Area Career Center students in good standing.

<b>HS Course Title</b>	<b>College Course Title</b>	<b>Course #</b>	<b>Credits</b>	<b>Post Secondary Institution</b>
Health Careers I	Intro to Health Careers		3	Ivy Tech
Health Careers I	Medical Terminology	HLHS 101	3	Ivy Tech
Health Careers I	Community Health and Wellness	HLHTH 210	3	Vincennes
Health Careers I	Medical Terminology	HIMT 110	3	Vincennes
Health Careers I	Medical Terminology	GBH 200	3	Purdue NC
Health Careers I	Introduction to Health Care	HST 107	3	Purdue NC
Health Careers II	C.N.A. Preparation		5	Ivy Tech
Health Careers II	Medical Terminology	HIMT 110	3	Vincennes
Health Careers II	Community Health and Wellness	HLTH210	3	Vincennes
Automotive Technology	Suspension and Steering		3	Ivy Tech
	Braking Systems		3	Ivy Tech
	Engine Performance		3	Ivy Tech
	Electrical & Electronics		3	Ivy Tech
	Transportation Fundamentals	AUTO-105	3	Vincennes
	Transportation Electronics	AUTO-110	3	Vincennes
	Transportation Electrical Lab	AUTO-110L	3	Vincennes
	Welding Technology	V65820-01	WLD 108	3
	V65820-02	WLD 208	3	Ivy Tech
	Oxy-Acetylene Welding	WELD 101	3	Vincennes
	Shielded Metal Arc Weld I	WELD 102	3	Vincennes
	Gas Metal Arc Welding	WELD 103	3	Vincennes
Advanced Manufacturing	Precision Machining	MTTC 101	3	Ivy Tech
	Precision Machining	INDT 102	3	Ivy Tech
	Precision Machining	MTTC 110	3	Ivy Tech
Electronics	Digital Electronics		3	Ivy Tech
	Digital Fundamentals	ECT 112	3	Ivy Tech
	Basic Electricity and Electronics	ELEC 100	3	Vincennes
	Basic Component and Circuit Analysis	ELEC 110	3	Vincennes
	Digital Logic I	ELEC 130	3	Vincennes
	Introduction to Circuit Analysis	ECET 10700	3	Purdue NC
	Digital Fundamentals	ECET 10900	3	Purdue NC

HS Course Title	College Course Title	Course #	Credits	Post Secondary Institution
Electronics (Energy Academy)	Intro to Energy	ENGY 100	3	Ivy Tech
	Introduction to Workplace Safety	INDT 106	3	Ivy Tech
	Introduction to Print Reading	INDT 102	3	Ivy Tech
	Construction Blueprint Reading	CONT 106	3	Ivy Tech
	Basic Electricity	INDT 113	3	Ivy Tech
	Electrical Basics	CONT 127	3	Ivy Tech
	Culinary Arts Academy	Serv Safe Certification	HOSP 101	3
Serv Safe Certification		HOSP 102	3	Ivy Tech
Pro Start Certification		HOSP 104	3	Ivy Tech
Pro Start Certification		HOSP 105	3	Ivy Tech
Quantity Food Production		CULN 110	3	Vincennes
Introduction to Hospitality		REST 100	3	Vincennes
Food Service Sanitation		REST 120	3	Vincennes
Construction Technology	Quantity Food Purchasing	REST 155	3	Vincennes
	Intro to Construction Tech	CONT 101	3	Ivy Tech
	Woodworking Fundamentals	TBCOT 120	3	Ivy Tech
	Construction Materials	CONT 102	3	Ivy Tech
	Floor and Wall Layout	BCOT 104	3	Ivy Tech
	Roof Construction	BCOT 105	3	Ivy Tech
	Construction Seminar	CNST 100	3	Vincennes
	Construction Safety	CNST 120	3	Vincennes
Criminal Justice	Indiana Residential Code for 1/2 Family	CNST 261	3	Vincennes
	Intro to Criminal Justice Systems	CRIM 101	3	Ivy Tech
	Criminal Investigations	CRIM 113	3	Ivy Tech
Early Childhood	Introduction to Early Childhood Education	ECED 100	3	Ivy Tech
	Health, Safety, and Nutrition	ECED 101	3	Ivy Tech
	Curriculum in Early childhood Classroom	ECED 103	3	Ivy Tech
	CDA Process	ECED 105	3	Ivy Tech