Special Committee on Improving Educational Opportunities in High School

August 20, 2012

Tania Kilpatrick
Career and Technical Education Coordinator

CESA 6
SMART THINKING.

Rising in Leadership

CTE, College and Career Readiness and Making High School Matter

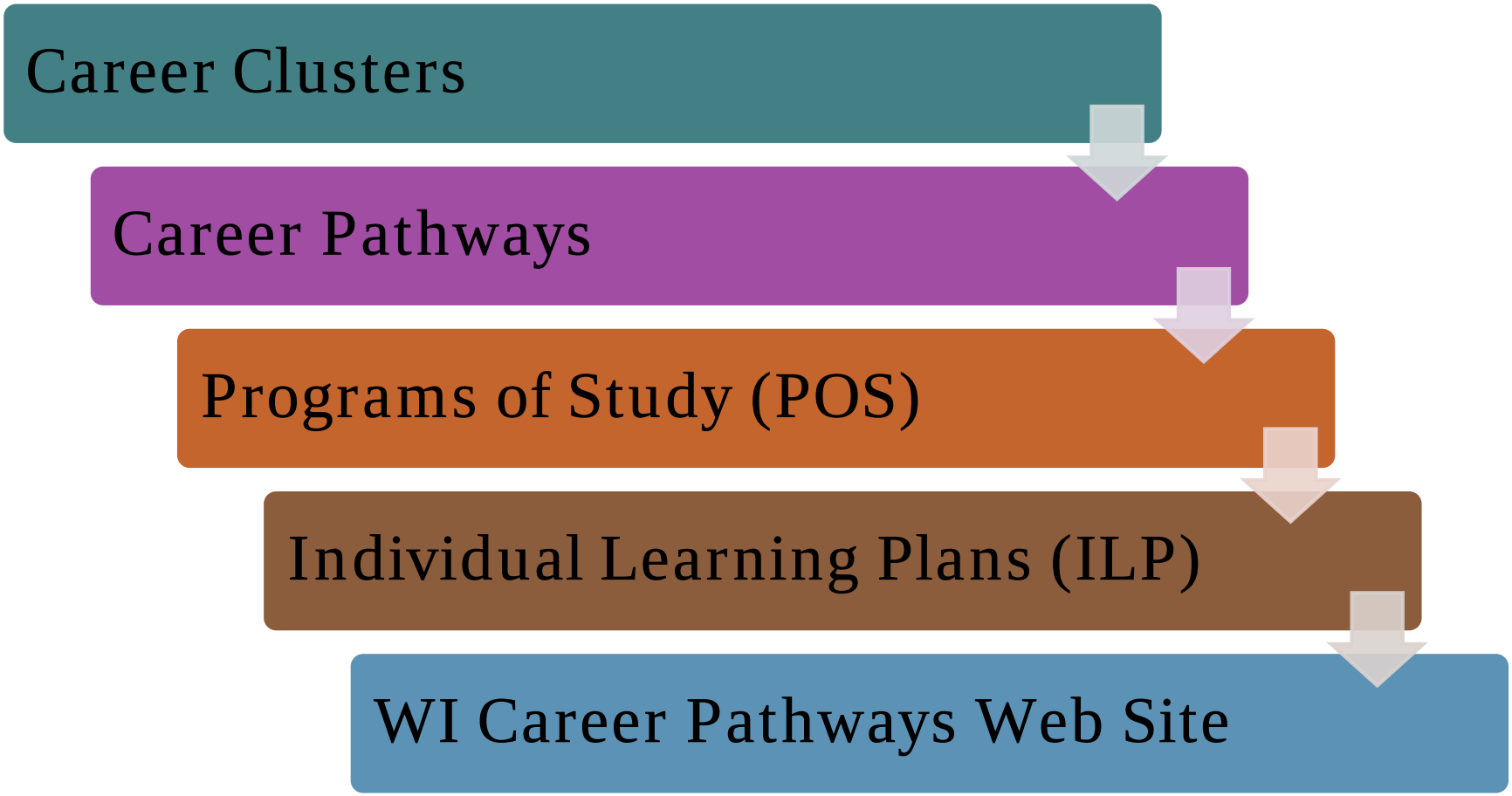
The Core Principles of the CTE Vision

- CTE is critical to ensuring that the United States leads in global competitiveness. (innovation and entrepreneurship)
- CTE actively partners with employers to design and provide high-quality, dynamic programs.
- CTE prepares students to succeed in further education and careers.

CTE: Learning that works for career and college readiness.

- Secondary CTE students are more informed and focused when they enter college
- Through Career Clusters™, student can craft educational pathways for success in college and career

Wisconsin Career Pathway Initiative




Marketing, Sales, and Service
Buying and Merchandising
Distribution and Logistics
e-Marketing
Management and Entrepreneurship
Marketing Communications and Promotion
Marketing Information Management and Research
Professional Sales and Marketing
Business, Management, and Administration
Administrative and Information Support
Business Analysis
Business Financial Management and Accounting
Marketing
Human Resources
Management
Finance
Banking and Related Services
Business Financial Management
Financial and Investment Planning
Insurance Services
Hospitality and Tourism
Lodging
Recreation, Amusements, and Attractions
Restaurants and Food and Beverage Services
Travel and Tourism
Agriculture, Food, and Natural Resources
Animal Systems
Agribusiness Systems
Environmental Service Systems
Food Products and Processing Systems
Natural Resources Systems
Plant Systems
Power, Structural, and Technical Systems
Arts, A/V Technology, and Communications
Audio/Video Techniques
Journalism and Broadcasting
Performing Arts
Printing Techniques
Telecommunications Techniques
Visual Arts
Information Technology
Information Support and Services
Interactive Media
Network Systems
Programming and Software Development
Environmental and Agricultural Systems
Business, Marketing, and Management
Communication and Information Systems
Foundation Knowledge and Skills
Academic and Technical Literacy
Employability • Ethics • Systems
Teamwork • Career Development
Problem Solving • Critical Thinking
Information Technology Application
Legal Responsibilities • Communication
Safety, Health, and Environment
CESA 6
SMART THINKING.
Law, Public Safety, and Security
Correction Services
Emergency and Fire Management Services
Law Enforcement Services
Legal Services
Security and Protective Services
Government and Public Administration
Revenue and Taxation
Foreign Service
Governance
National Security
Planning
Public Management and Administration
Regulation
Human Services
Consumer Services
Counseling and Mental Health Services
Early Childhood Development and Services
Family and Community Services
Personal Care Services
Education and Training
Administration and Administrative Support
Professional Support Services
Teaching/Training
Human Services and Resources
Health Sciences
Industrial, Manufacturing, and Engineering Systems
Transportation, Distribution, and Logistics
Facility and Mobile Equipment Maintenance
Health, Safety, and Environmental Management
Logistics Planning and Management Services
Sales and Services
Transportation Operations
Transportation/Systems Infrastructure Planning, Management, and Regulation
Warehousing and Distribution Center Operations
Health Science
Biotechnology Research and Development
Diagnostic Services
Supportive Services
Health Informatics
Therapeutic Services
Architecture and Construction
Construction
Design and Pre-construction
Maintenance and Operations
Manufacturing
Production
Manufacturing Production Process Development
Maintenance, Installation, and Repair
Quality Assurance
Logistics and Inventory Control
Health, Safety, and Environmental Assurance
Science, Technology, Engineering, and Mathematics
Engineering and Technology
Science and Math (Investigative, Informational, and Educational)

Agriculture, Food and Natural Resources: Agribusiness Systems

Career Pathway Plan of Study for ▶Learners ▶Parents ▶Counselors ▶Teachers/Faculty

*This Career Pathway Plan of Study (based on the Agribusiness Systems Pathway of the Agriculture, Food and Natural Resources Career Cluster) can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. *This Plan of Study, used for learners at an educational institution, should be customized with course titles and appropriate high school graduation requirements as well as college entrance requirements.*

EDUCATION LEVELS	GRADE	English/ Language Arts	Math	Science	Social Studies/ Sciences	Other Required Courses Other Electives Recommended Electives Learner Activities	*Career and Technical Courses and/or Degree Major Courses for Agribusiness Systems Pathway	SAMPLE Occupations Relating to This Pathway
	Interest Inventory Administered and Plan of Study Initiated for all Learners							
SECONDARY	9	English/ Language Arts I	Algebra I	Earth or Environmental Science	State History Civics	All plans of study should meet local and state high school graduation requirements and college entrance requirements. Supervised Agricultural Experience (SAE) and participation in appropriate FFA activities support and reinforce classroom and laboratory learning and should be a requirement for all students.	• Introduction to Agriculture, Food and Natural Resources	**Occupations Requiring Postsecondary Education** ▶Agricultural Chemical Dealer ▶Agricultural Products Buyer-Distributor ▶Bank/Loan Office ▶Dairy Herd Supervisor ▶Entrepreneur ▶Farm Manager ▶Farmer-Rancher-Feedlot Operator ▶Feed-Supply Store Manager ▶Field Representatives for Bank, Insurance Company or Government Program ▶Livestock Manager ▶Sales Manager ▶Salesperson
SECONDARY	10	English/ Language Arts II	Geometry	Biology	U.S. History		• Introduction to Agricultural Marketing, Business and Entrepreneurship • Accounting	
SECONDARY	11	English/ Language Arts III	Algebra II or other math course	Chemistry or other science course	World History		• Agricultural Business Management	
	College Placement Assessments-Academic/Career Advisement Provided							
SECONDARY	12	English/ Language Arts IV	Statistics or other math course				• Agricultural Economics • Internship in Agribusiness	
	Articulation/Dual Credit Transcripted-Postsecondary courses may be taken/moved to the secondary level for articulation/dual credit purposes.							
POSTSECONDARY	Year 13	English Composition	Algebra	Chemistry	American Government	All plans of study need to meet learners' career goals with regard to required degrees, licenses, certifications or journey worker status. Certain local student organization activities may also be important to include.	• Introduction to Agribusiness • Principles of Agribusiness • Agricultural Economics	**Occupations Requiring Baccalaureate Degree** ▶Agricultural Commodity Broker ▶Agricultural Economist ▶Agricultural Educator ▶Agricultural Lender ▶Banker/Loan Officer ▶Farm Investment Manager ▶Produce Commission Manager
POSTSECONDARY	Year 14	Speech/ Oral Communication		Biological Science or Botany	American History Geography		• Agricultural Salesmanship • Agricultural Finance • Agricultural Advertising/Merchandising	
POSTSECONDARY	Year 15	Technical Writing	Statistics		Psychology		• Continue Courses in the Area of Specialization	
POSTSECONDARY	Year 16	Continue courses in the area of specialization.					• Complete Agribusiness Systems Major (4-Year Degree Program)	

Project funded by the U.S. Department of Education (VO51B020001)

https://www.wicareerpathways.org

Every step along the Pathway is crucial to making each student's future a success

Employment: Career Advancement
Continuing education and lifelong learning

Post-secondary: Career Preparation
Achieving credentials: college, certification, apprenticeships, military

9–12: Career Preparation
Academics and technical courses, intensive guidance, individual graduation plans

8: Career Connection
Choosing a cluster of study and major (can change easily at any time)

6–8: Career Exploration
Discovering interest areas

K–5: Career Awareness
Introduction to the world of careers- Academic and Social Awareness

Intensive Guidance Means Students…

- Meet at least once a year with a teacher or a guidance counselor to review plan of study.
- Receive the most help in planning a high school program of study by the end of grade nine.
- Talk with parents at least once a year about planning a four-year program of study.
- Talk with teacher/counselor about their plans after high school.
- Speak with or visit someone in a career of interest.
- Talk with someone from a college about postsecondary education.
- Receive information/assistance from someone at school about selecting or applying to a college.
- Have an adult mentor/adviser who works with them throughout four years of high school.

Credit Options

Youth Options

http://dpi.wi.gov/youthoptions/pdf/yo_faq.pdf

Articulated Credits

Articulation (WTCS/DPI) - Wisconsin Department of Public Instruction

*dpi.**wi**.gov/cte/doc/wtcsarticulation.doc*

- Advanced Standing
- Transcripted credits

Transfer Credit Option

- http://tis.uwsa.edu/

A future where students benefit from . . .

Classroom instruction

- *Project based learning*
- *Contextualized learning*

Work based learning-WBL

http://dpi.wi.gov/cte/pdf/wblguid2.pdf

- *Labs*
- *Shops*
- *Job shadowing*
- *Internships*
- *School-based enterprise*
- *Cooperative education*
- *Apprenticeships*

CTSOs

- *Leadership development*
- *Professional development*
- *Service/social engagement*
- *Competitive events*

Actions to Equip All Students with 21st Century Skills

Schools must establish criteria to redesign CT courses that require students to:

- Do substantial reading and reflective writing in the career field
- Describe orally what they have learned through class projects
- Develop their analytical thinking skills
- Demonstrate trouble-shooting and problem-solving skills

Make CT Courses Intellectually Demanding

Schools must establish criteria to redesign CT courses that require students to:

- Develop research and organizational skills to address a problem or task
- Use mathematics to support decisions and complete a class project
- Learn the habits of the mind for inventions, experimentation, design, etc.

http://dwd.wisconsin.gov/youthapprenticeship/

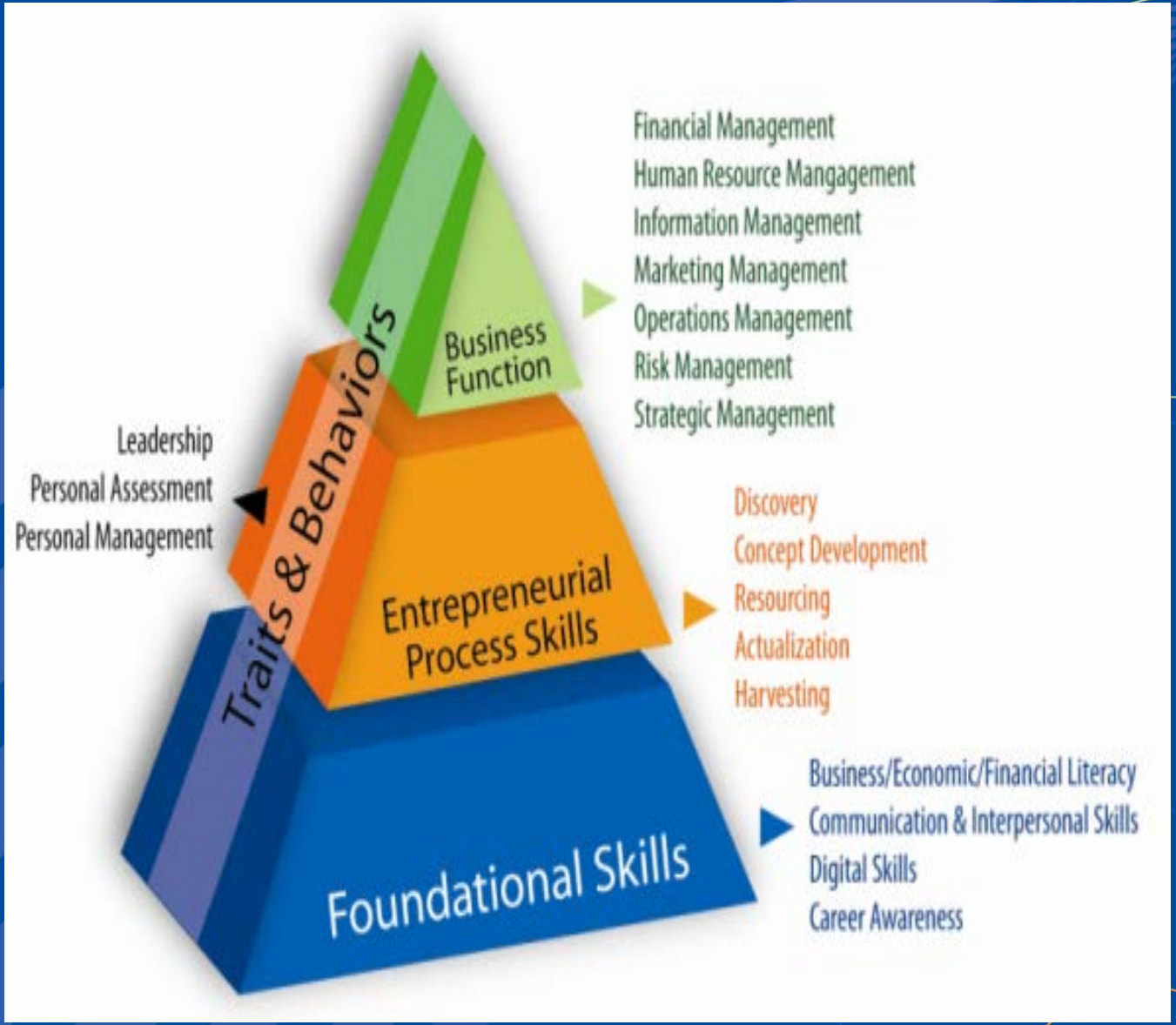
Benefits to Employers

- Recruit and screen potential employees
- Improve the skill level of future workers
- Reduce employee turnover by hiring program graduates
- Help develop skill standards geared to industry's needs
- Improve their competitive position in the world market place
- Partner with local schools to prepare students for their future
- Improve community relations by helping local youth with employment and education

Benefits to Youth

- See first hand the connection between classroom education and work
- Strengthen their academic skills
- Explore their interest in a particular career field
- Earn wages while learning from skilled professionals
- Earn a state skill certificate upon completion of the program
- Earn technical college credits
- Increase their career options and future employability

The Framework



Wisconsin's Vision for Entrepreneurship Education

CTE Program Opportunities

Closing the STEM Gap

STEM Roadmap

The purpose of the STEM roadmap

- To build awareness of the value of STEM education as a pathway to economic success.
- To provide resources and experiences for Wisconsin educators, from pre-kindergarten through college, to develop STEM knowledge and skills.
- To position STEM education as a valued outcome for all Wisconsin students.
- To promote STEM skills as an economic advantage for those entering the Wisconsin workforce.

Math-in-CTE

Fox Cities F.O.C.U.S.

Fostering Our Communities' Understanding of STEM

Fox Cities Chamber of Commerce & Industry

CESA 6
SMART THINKING.

Time Warner Cable
Presents
# STEMfest
STEM = Science, Technology, Engineering and Math

as part of its
Connect a Million Minds
initiative.

Special STEM-themed exhibits with engaging learning opportunities for all ages!

SAT, OCT 8
9 AM - 3 PM
The Building For Kids
Children's Museum
100 W. College Ave.
Appleton, WI

FREE admission to the event and museum!

For more information visit: www.buildingforkids.org

CONNECT a MILLION MINDS™
AN INITIATIVE OF Time Warner Cable

The Building for Kids® children's museum

FOX CITIES F.O.C.U.S.
Fostering Our Communities' Understanding of STEM


Fox Cities FOCUS
F.O.C.U.S.
Fostering Our Communities' Understanding of STEM
FLEXLIS
93

Fox Valley
TECHNICAL COLLEGE
Knowledge That Works

Affinity
HEALTH SYSTEM

Cracking The Code 2011

Time Warner Cable

Fox Valley
TECHNICAL COLLEGE
Knowledge That Works

EAA™
THE SPIRIT OF AVIATION

Miron

Building Excellence

Engineering is Elementary

http://www.mos.org/eie/

Wisconsin
PLTW
PROJECT LEAD THE WAY

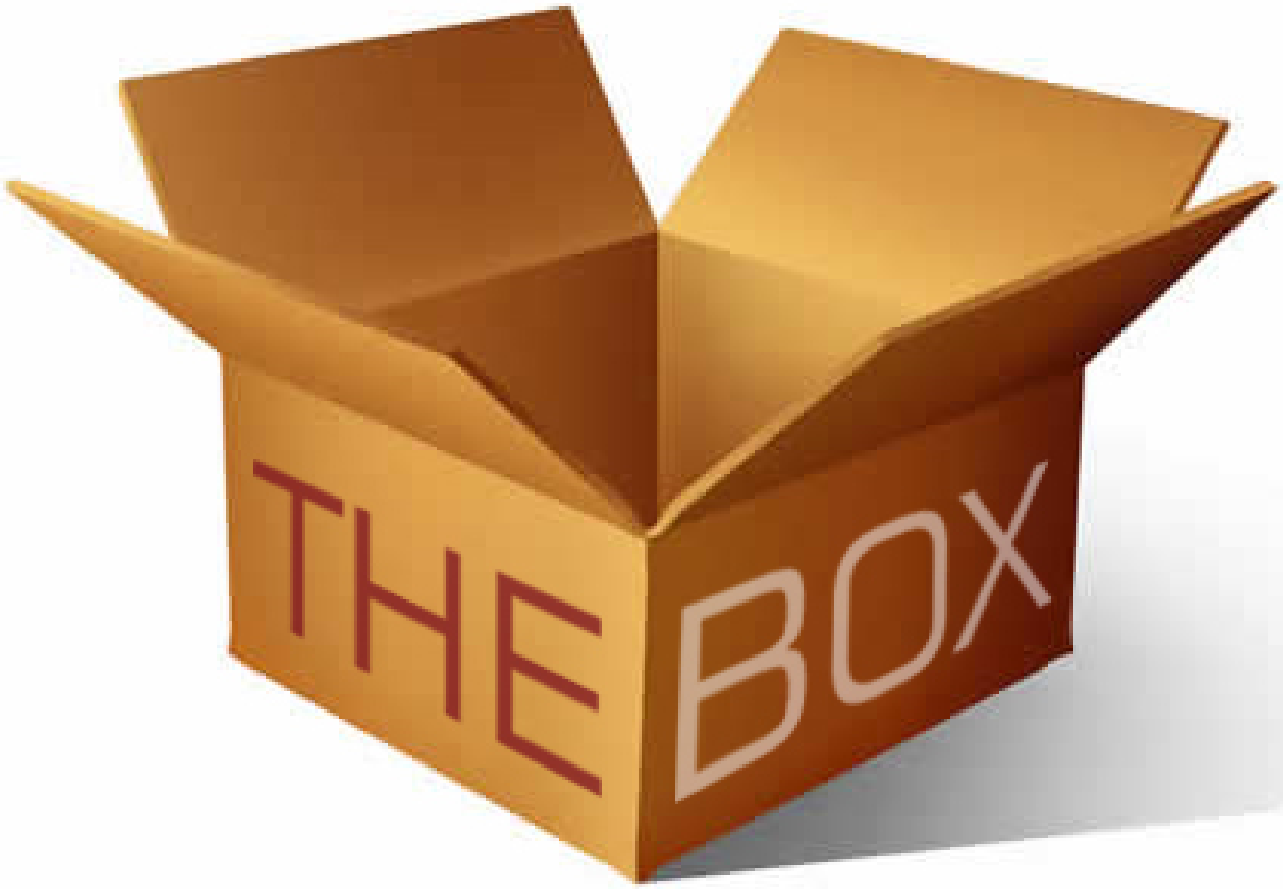

Middle School Engineering


High School Science


High School Engineering


Wisconsin
STEM
Summit

thinking



A future CTE that is nested in . . .

Rigorous Programs (Such as):

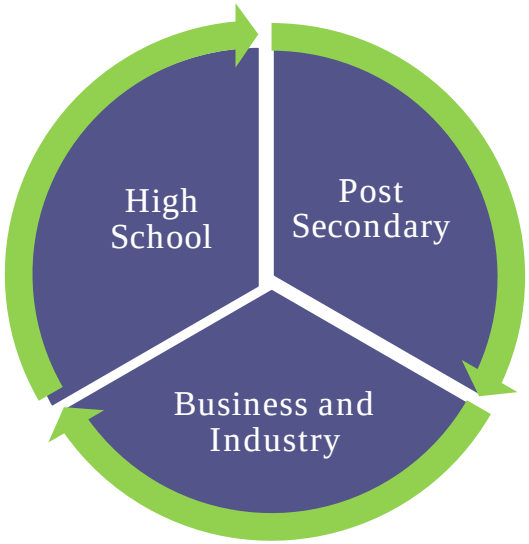
- •Programs of Study (early NRCCTE evidence)
- •Career academies – some evidence
- Toyota model – early evidence
- HSTW – strong correlation evidence
- Project Lead the Way – strong internal evaluations
- NCEE Board Examination Model-new
- Linked Learning (CA)

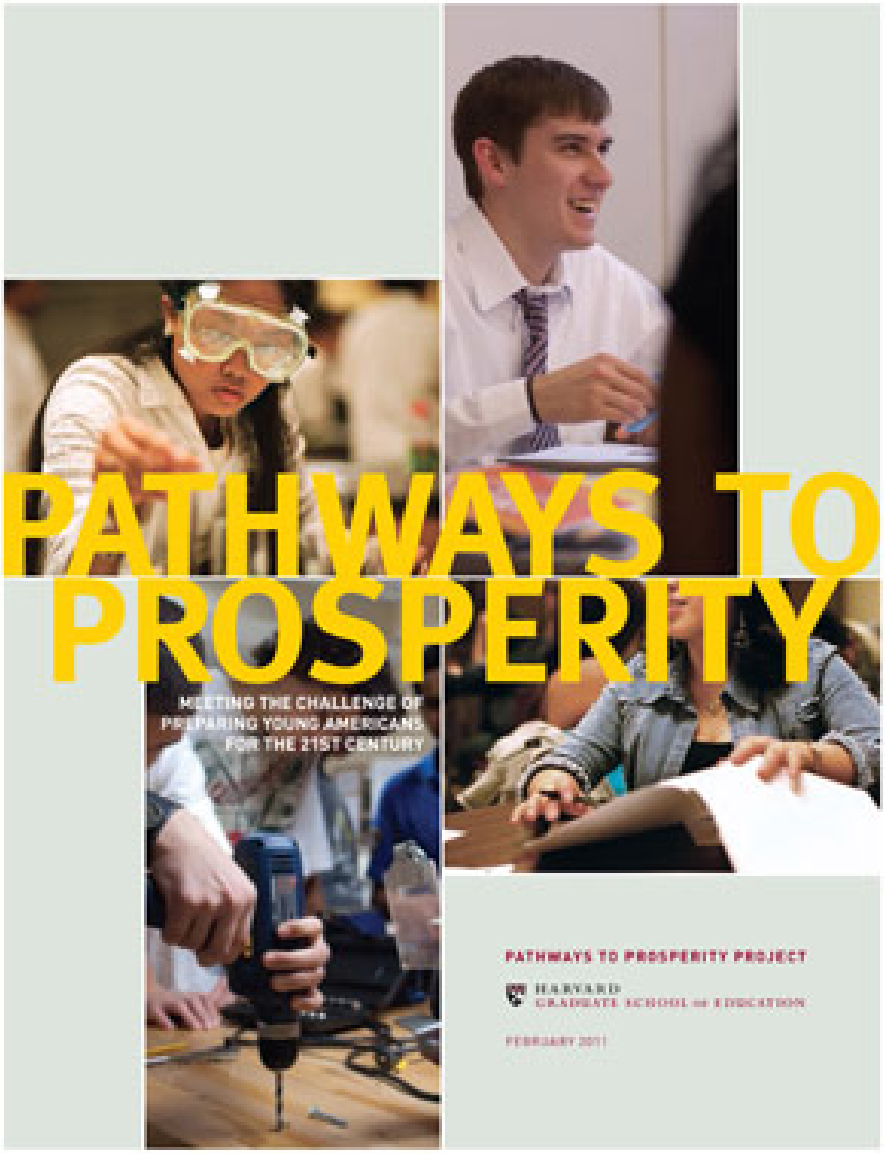
That incorporate:

- Robust Career Development
- Integrated learning
- Link to industry credentials
- Dual/Concurrent Enrollment
- Entrepreneurship

Built around Consortia

Supported by Professional Development



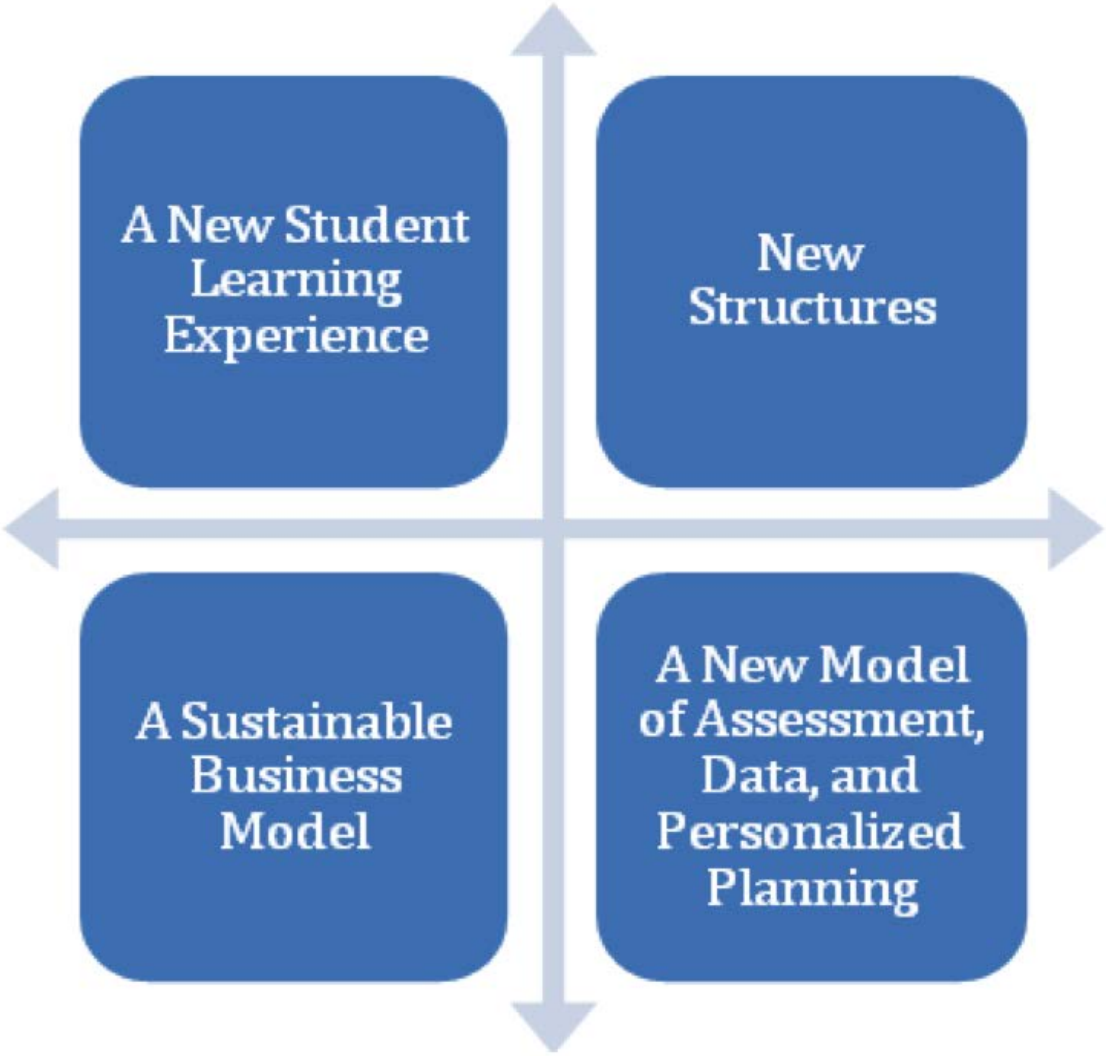


Pathways to Prosperity: Meeting the Challenge of Preparing Young ...

*www.gse.harvard.edu/news_events/.../**Path ways**_to_**Prosperity**_Feb2011.pdf*

Next Generation of CTE

Four Design Keys



Career and Technical Regional Core

- *World class curriculum…*
  - Critical thinking developed by using academic skills to solve real problems in class and on the job
  - Builds related academic, occupational and technical skills
- *Delivered by world class teachers who:*
  - are technical masters
  - can link related academics to technical content
  - supported by employers who engage your students

Understanding and Purpose of CTE Regional Programs

1. Education pathways that help students explore interests and careers in the process of progressing through school.
2. Create partnerships and collaborative efforts between education and the workforce (mentoring/internships)
3. Bring consistency, efficiency, and synergy to existing Programs.
4. Increase the pipeline of students career and college focused/ready.

What Works: Designing Hybrid Courses for Academic and CT Credit

Schools should take steps to ensure that:

- CT courses are equivalent in content and complexity to traditional academic courses
- Teachers are qualified and have special training
- Students achieve at a level comparable to students in traditional academic courses
- Time is scheduled for academic and CT teachers to work together

Strengthening C/T Studies

- Enroll at-risk students in at least one C/T credit course annually
- Offer ninth grade, project-based, exploratory course introducing broad career fields
- Increase the number of students completing a concentration of courses that lead to industry certification
- Expand opportunities for students to earn post-secondary credit or certifications
- Emphasize literacy, numeracy, and problem-solving in all C/T classrooms.

Strategies to Strengthen C/T Courses

- Create C/T anchor project assessments - interim and end-of course - that reflect industry standards and require use of literacy and numeracy skills
- Purposefully embed academics in all C/T courses
- Require a career-focused senior (capstone) project
- Get input from local business and industry partners to strengthen applications of career/tech content and expand WBL/internships

Raising Expectations

- Increasing the rigor in classrooms
  - Level of questioning
- Defining grade level work
  - Clear definitions in course syllabi (more than a number)
  - Focus on college and career readiness
  - Rubrics
  - Quality Student Work
- Grading Practices
  - Failure is Not an Option
  - Standards-based Grading
  - Use of Incomplete Grades
- Teachers Working Together to Create Common Expectations
  - Course Syllabi
  - End-of-course and end-of-unit
  - Analyzing Student Work

Postsecondary Transition – Four Parts

1. For students meeting college readiness standards on state assessments - College credit while in high school.
2. Students planning on further study who do not pass state assessments at college readiness level take transitional mathematics and/or English courses.
3. Students who pass state assessments not planning to go on to further study complete a program leading to industry certification.
4. Students who do not pass state assessments enrolled in double-dose courses and CT program.

Additional Actions for Making the Senior Year Count

- Have community college administer placement exam during 11th grade
- SAT/ACT Test for everyone in 11th grade
- Reality check prior to the senior year with parents, adviser and counselor
- Enroll seniors in default curriculum of upper-level courses
- Enroll all seniors in at least three academic courses
- Require a senior project that includes a research paper, a product or service, an oral presentation and a power point
- Engage in WBL programs

Contact Information

Tania Kilpatrick

Career and Technical Education Coordinator

2300 State Hwy 44

PO BOX 2568

Oshkosh, WI 54903

Phone: 920-236-0531

Fax: 920-424-3478

tkilpatrick@cesa6.org

CESA 6

SMART THINKING.