



# CTE – A Powerful Instructional Strategy

Presented at the KSDE Fall Conference, October 21, 2014

Jim Means, USD 259 and Max Heinrichs, Hillsboro High School

Presentation Objective – To develop an awareness and understanding of today's CTE pathways and ways in which they support and enhancement academic learning.



# Why is career and technical education important?



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Many students are  
college bound . . .

ALL students are  
career bound!



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Over 50% of recent graduates with bachelors degrees in the US are now underemployed or unemployed.

Approximately one-third of the open jobs in the US remain unfilled because no one has the skills required. It is a skill shortage, not a labor shortage.

By 2018, 64% of the jobs in Kansas will require some type of post-secondary education.



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# Then and Now

## Vocational Education

"Then"

For a Few Students

For a Few "Jobs"

6 to 7 "Program Areas"

In-lieu of Academics

High School Focused

## Career and Technical Education

"Now"

For All Students

For All "Careers"

16 Clusters – 79+ Pathways

Aligns/Supports Academics

High School & College Partnerships

Learning for all,  
and all means all!

Career education for all,  
and all means all!



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# What are Career Clusters?

- Groupings of occupations and industries
- These groupings are used as an organizing tool for:
  - Curriculum Design
  - Instructional + Guidance Model
  - Seamless Transition





# Kansas Secondary-Level Career Clusters and Pathways

**Note:** State-developed secondary-level pathways lead to: High-demand & high-skill careers with postsecondary connections and/or industry credentials/certifications or High-demand & high-wage careers with postsecondary connections and/or industry credentials/certifications

## Agriculture, Food, and Natural Resources

- Agribusiness Systems
- Agriculture Science
- Animal Science
- Biotechnology in Agriculture
- Food Products & Processing Systems
- Natural Resources & Environmental Systems
- Plant Systems
- Power, Structural and Technical Systems

## Arts, A/V Technology, and Communications

- AV Communications
- Visual Arts

## Information Technology

- Information Support and Services
- Network Systems
- Programming and Software Development
- Web and Digital Communications

## Science, Technology, Engineering, and Mathematics

- BioChemistry/Green/Hazmat
- BioMedical
- Cartography/Geospatial/Spatial Mathematics
- Engineering & Applied Mathematics

## Manufacturing

- Maintenance
- Production

## Architecture and Construction

- Construction
- Design and Pre-construction

## Transportation, Distribution, and Logistics

- Mobile Equipment Maintenance

## Health Science

- Health Science

## Environmental and Agricultural Systems

## Arts, Communication, and Information

## Industrial, Manufacturing, and Engineering Systems

## Health Science

## Human Resources and Services

## Law, Public Safety and Security

- Correction, Security, and Law Enforcement Services
- Emergency and Fire Management Services

## Human Services

- Consumer Services
- Early Childhood Development and Services
- Family and Community Services

## Government and Public Administration

- Government and Public Administration

## Business Management and Administration

- Business Entrepreneurship and Management

## Hospitality and Tourism

- Restaurant and Event Management
- Travel and Tourism

## Finance

- Business Finance

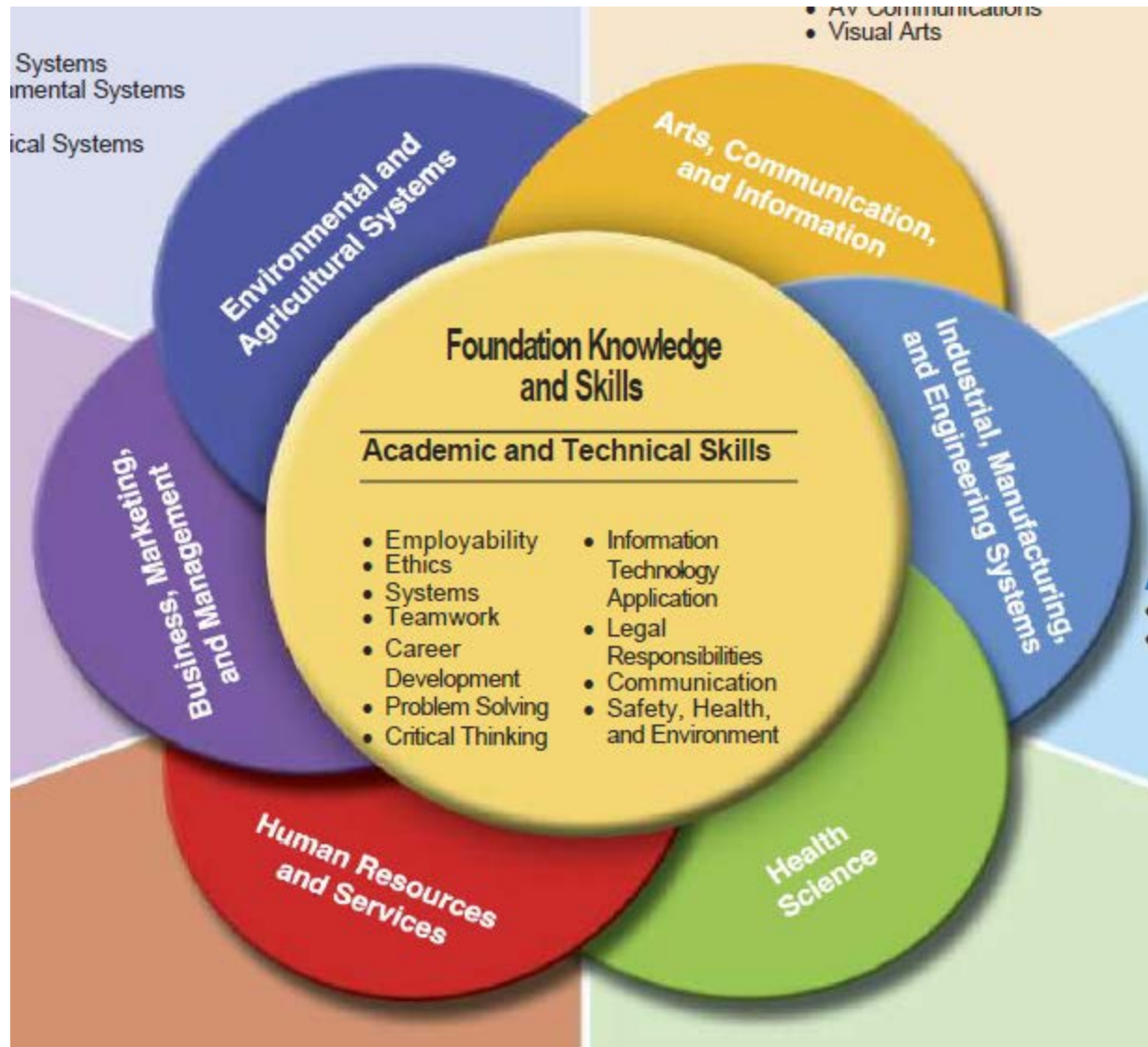
## Education and Training

- Teaching/ Training

## Foundation Knowledge and Skills

### Academic and Technical Skills

- |                      |                                      |
|----------------------|--------------------------------------|
| • Employability      | • Information Technology Application |
| • Ethics             | • Legal Responsibilities             |
| • Systems            | • Communication                      |
| • Teamwork           | • Safety, Health, and Environment    |
| • Career Development |                                      |
| • Problem Solving    |                                      |
| • Critical Thinking  |                                      |



- Focus on Leading CTE into the 21<sup>st</sup> century
  - Program Improvement
  - Global Competition
  - Ensuring modern, durable, and rigorous CTE programs



# AV Communications Pathway

## AV Strand

- Career opportunities: journalist, photographer, video editor, public relations specialist, reporter
- Course Sequence
  - Business Essentials (.5)
  - Computer Essentials (.5)
  - Audio/Video Production Fundamentals (.5)
  - Marketing
  - Computer Graphics (recommended but not part of pathway)
  - Digital Video Productions
  - Digital Media Design and Production



# AV Communications Pathway

## Communications Strand

- Career opportunities: journalist, photographer, video editor, public relations specialist, reporter
- Course Sequence
  - Business Essentials (.5)
  - Computer Essentials (.5)
  - 21<sup>st</sup> Century Journalism(.5)
  - Fundamentals of Graphic Design (.5)
  - Digital Media Technology (.5)
  - Media Public Relations (.5)
  - Photo Imaging (.5)
  - Project Management for Communications - Repeatable





# Visual Arts Pathway

## Graphic Design Strand

- Career opportunities: illustrator, art teacher, artist, graphic designer, commercial or industrial designer
- Course Sequence
  - Introduction to Drawing (.5)
  - Principles of Illustration (.5)
  - Computer Essentials (.5)
  - Photo Imaging (.5)
  - Fundamentals of Graphic Design (.5)
  - Graphic Design
  - Computer Graphics
  - Project Management for Graphic Design - Repeatable



# Visual Arts Pathway

## Interior and Textile Design Strand

- Career opportunities: interior designer, commercial or industrial designer, textile designer, fashion designer, fashion design management, set and exhibit designer
- Course Sequence
  - Career & Life Planning (.5)
  - Introduction to Drawing (.5)
  - Principles of Illustration (.5)
  - Essentials of Interior & Textile Design (.5)
  - Interior & Textile Merchandising (.5)
  - Interior & Textile Production (.5)
  - Interior & Design Studio
  - Interior Design Applications (.5)
  - Career Connections for Interior & Textile Design



# Network Systems Pathway

- Career opportunities: network technician, network PC support specialist, network administrator, network transport administrator, data communications analyst
- Course Sequence
  - Computer Essentials (.5)
  - Networking Systems
  - Router Basics
  - Network Security (.5)
  - IT Hardware Basics
  - Network Tech Support (Repeatable)Computer Programming





# Programming & Software Development Pathway

- Career opportunities: software applications specialist, software applications tester, applications engineer, applications data modeler, systems engineer, network analyst
- Course Sequence
  - Computer Essentials (.5)
  - Computer Programming
  - Advanced Computer Programming
  - Web Page Design (.5)
  - Game Design
  - Programming Tech Support - Repeatable



# Web and Digital Communications Pathway

- Career opportunities: computer support specialist, applications support, database administrator, computer software engineer, web administrator/developer
- Course Sequence
  - Computer Essentials (.5)
  - Web Page Design (.5)
  - Animation (.5)
  - Computer Programming
  - Photo Imaging (5.)
  - Game Design
  - Media Technology Internship



# Construction Pathway

- Career opportunities: construction manager, general contractor, specialty contractor, project manager, supervisor, electrician, plumbers, construction equipment operator, construction & building inspector, carpenter, civil engineering technician, cost estimator, purchasing manager, environmental engineer
- Course Sequence
  - Introduction to Industrial Technology (.5)
  - Remodeling & Building Maintenance
  - Cabinetmaking & Furniture Design 1
  - Residential Carpentry 1
  - Cabinetmaking & Furniture Design 2



# Design and Pre-Construction Pathway

- Career opportunities: landscape designer, surveyor, interior designer, drafter, architectural and civil drafter, civil engineer, electrical engineer, industrial engineer, cost estimator, architect, health and safety engineer
- Course Sequence
  - Introduction to Industrial Technology (.5)
  - Drafting/CAD 1 & 2
  - Architecture Design 1 & 2
  - Research & Design for Pre-Construction 1 & 2



# Mobile Equipment Maintenance Pathway

- Career opportunities: service technician, automotive body repairs, heavy equipment mechanic, general and operations manager, safety manager
- Course Sequence
  - Emphasis on auto collision and refinishing
  - Emphasis on automotive technician
  - Emphasis on motorcycle technician



# Health Science Pathway

- Career opportunities: athletic trainer, registered nurse, physician, paramedic, pharmacist, geneticist, biochemist, veterinarian
- Course Sequence
  - Introduction to Health Science (.5)
  - Health Science Technology 1, 2, 3
  - Bio Medical Explorations
  - Bio Medical Explorations 2, 3, 4
  - Anatomy and Physiology
  - Health Careers Exploration



# Consumer Services Pathway

- Career opportunities: consumer credit counselor, customer service representative, field merchandising representative, buyer, realtor, employee benefits representative
- Course Sequence
  - Introduction to Human Services (.5)
  - Career and Life Planning (.5)
  - Financial Literacy (.5)
  - Youth Entrepreneurs of Kansas
  - Marketing
  - Career Connections for Consumer Services



# Early Childhood Development and Services Pathway

- Career opportunities: childcare assistant or director, nanny, preschool teacher, teacher's assistant, early childhood teacher, elementary teacher
- Course Sequence
  - Introduction to Human Services (.5)
  - Career and Life Planning(.5)
  - World of Children(.5)
  - Parenting & Child Development(.5)
  - Family Studies(.5)
  - Early Childhood Education Foundations
  - Early Childhood Education Lab





# Emergency and Fire Management Services Pathway

- Career opportunities: EMT, paramedic, rescue worker, fire fighter, fire prevention, hazardous materials removal, fire inspector
- Course Sequence
  - Introduction to Law & Public Safety and Security (.5)
  - Firefighter 1
  - Emergency Medical Technician
  - Firefighter 2



# Corrections, Security, Law and Law Enforcement – Pre-Law Strand

- Career opportunities: Lawyer, paralegal
- Course Sequence
  - Introduction to Law, Public Safety and Security (.5)
  - Business Law
  - Practical Law
  - Accounting
  - Business Management
  - Foundations of Law
  - Youth Court
  - LPSS Internship



# Corrections, Security, Law and Law Enforcement – Law Enforcement Strand

- Career opportunities: Police officer, corrections officer, security officer, probation officer
- Course Sequence
  - Introduction to Law, Public Safety and Security (.5)
  - Computers Essentials (.5)
  - Law Enforcement I
  - First Aid/CPR/EMF
  - Law Enforcement II
  - LPSS Internship



# Family & Community Services Pathway

- Career opportunities: community services director, adult day care coordinator, volunteer coordinator, social services worker, employment counselor, dietician, relief worker
- Course Sequence
  - Introduction to Human Services (.5)
  - Career and Life Planning (.5)
  - Parenting & Child Development (.5)
  - Family Studies (.5)
  - Financial Literacy (.5)
  - Nutrition and Wellness (.5)
  - Career Connections for Family and Community Services



# Teacher/Training Pathway

- Career opportunities: teacher, school counselor, school administrator, social worker, child psychologist, corporate trainer, coach, college/university professor
- Course Sequence
  - Career and Life Planning
  - Parenting & Child Development
  - World of Children
  - Teaching as a Career
  - Teaching Internship



# Marketing Pathway

- Career opportunities: small business owner, account executive, sales manager, merchandise buyer, advertising manager, marketing associate, public information director
- Course Sequence
  - Business Essentials (.5)
  - Marketing
  - Youth Entrepreneurs of Kansas
  - Sports & Entertainment Marketing (.5)
  - Accounting
  - Marketing Research



# Business Entrepreneurship & Management Pathway

- Career opportunities: compliance officer, human resources manager, public relations manager, accounts payable manager, manufacturing or hospital management
- Course Sequence
  - Business Essentials (.5)
  - Youth Entrepreneurs of Kansas
  - Business Management (.5)
  - Accounting
  - Business Communications (.5)
  - Business Law (.5)
  - Marketing
  - Advanced Business Development



# Business Finance Pathway

- Career opportunities: accountant, financial analyst, investment banker, controller, auditor, economist, tax examiner, revenue agent
- Course Sequence
  - Business Essentials (.5)
  - Youth Entrepreneurs of Kansas
  - Accounting
  - Banking & Finance
  - Investing(.5)
  - Advanced Accounting





# Restaurant & Event Management Pathway

## Culinary Arts & Management Strand

- Career opportunities: baker, chef and head cook, food service manager, event planner
- Course Sequence
  - Career & Life Planning (.5)
  - Business Essentials(.5)
  - Culinary Essentials(.5)
  - Baking & Pastry 1 and 2
  - Culinary Arts 1
  - Culinary Arts 2 (.5)
  - Food Science
  - Nutrition and Wellness (.5)
  - Culinary Applications



# Manufacturing Production Pathway

- Career opportunities: assembler, automated machining technician, calibration technician, industrial machinery mechanic, machine operator, tool and die maker, manufacturing engineer
- Course Sequence
  - Introduction to Industrial Technology (.5)
  - Machine Tool Technology 1
  - Computer Aided Machining
  - Machine Tool Technology 2



# Engineering & Applied Mathematics Pathway

- Career opportunities: civil engineer or technician, industrial engineer or technician, industrial engineer or technician, engineering manager, materials engineer, safety engineer
- Course Sequence
  - Introduction to Engineering Design
  - Principles of Engineering
  - Digital Electronics
  - Aerospace Engineering
  - Engineering Design and Development



# Supporting Students in CTE



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# Senate Bill 155

Expanding college level CTE opportunities for high school students.

- Community/technical college CTE courses – NO TUITION
- Reimburse district for transporting students to college campus when needed
- \$1,000 incentive funding for students earning approved professional certificates



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WATC > Admissions > High School Students

## ABOUT

### High School Students

APPLY NOW

REQUEST INFO

# FREE TUITION

FOR HIGH SCHOOL JUNIORS & SENIORS

### Career and Technical Education Act – Senate Bill 155

Beginning the 2012-2013 school year, the Governor of Kansas approved juniors and seniors to access college credit classes that prepare students to work in high demand career fields at NO CHARGE through the Career and Technical Education Act – Senate Bill 155 (CTE). This opportunity will assist students in acquiring work ready skills while building a college transcript and contribute to a skilled workforce for Kansas employers.

Without paying a penny in tuition, students are eligible to take qualified career and technical college credit courses offered through Wichita Area Technical College!

[FREE TUITION Eligible Courses](#)

[Block Class Schedule](#)

[Create your own schedule](#)

### ACE Dual-Concurrent

Students can earn college credit taking courses at WATC, high school campus or online. WATC is accredited by the Higher Learning Commission making general and technical education course credits easily transferable to other colleges.

WATC ACE (Accelerated College Experience) provides high school students an opportunity to get started on their postsecondary goals while still in high school!



### High School Partners Offering Dual-Concurrent Credit\*

Maize USD 266  
Goddard USD 265  
Derby USD 260  
Wichita USD 259  
Valley Center USD 262

WATC PROVIDES A  
**GREAT  
EDUCATION**



Kiera Brown, WATC Dual-Concurrent Student

I HAVE THE ABILITY TO  
**EARN A DEGREE  
BEFORE I GRADUATE  
HIGH SCHOOL**

# Professional Credentials/Certificates

- Health - Certified Nurse Aide (CNA), Certified Medication Aide (CMA), Home Health Aide (HHA), Emergency Medical Technician (also in Law and Public Safety pathways)
- Transportation - Automotive Service Excellence (ASE)
- Construction - National Center for Construction Education and Research (NCCER)
- Manufacturing - American Welding Society (AWS)
- IT – CCNA, A+, N+
- Culinary – ServeSafe Managerial, National Restaurant Association Education Foundation – ProStart National Certificate of Achievement
- General Skills - WorkKeys

Note: Underlined certificates qualify for SB155 incentive funding.



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# Career and Technical Student Organizations (CTSOs)

Students organizations providing students with co-curricular opportunities to refine academic, technical and employability skills. Conferences and competitions provide leadership training and settings to interact and compete with students from other states.

BPA – Business Professionals of America

DECA – an organization for marketing students

FCCLA

FEA – Future Educators Association

HOSA – an organization for health science students

SkillsUSA – an organization for CTE students in multiple pathways

TSA – Technology Student Association





# Regional Manufacturing Council for Technical Education (RMCTE)

The RMCTE acts as the advisory committee for USD 259's manufacturing production pathway and for a related pathway with WATC. The goals of the RMCTE include:

- Enhanced partnerships between secondary and postsecondary education, and between education and business/industry/employers.
- Ensure that CTE pathways, both secondary and postsecondary, are aligned with and support future workforce needs.

Working smarter not harder for more outcomes to support technical education and training.



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State Articulation Agreements

Individual Plans of Study

Components of Quality CTE Pathways

- Physical Setting
- Partnerships
- Professional Development
- Instructional Strategies
- Student Outcomes



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Jim Means  
Executive Director, CTE  
201 N. Water, Room 515  
Wichita, KS 67215  
316-973-4511  
[jmeans2@usd259.net](mailto:jmeans2@usd259.net)



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