Advanced Career: Jump Start Student Opportunities with New Career Pathways for the 21st Century

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Start with a Quiz:
Why is the cover of a manhole nearly always round?
Scott Warren

• Director of State Initiatives
• Former
  • HS Administrator
  • Math Teacher
• What I believe
  • Purpose
  • More math in isolation has not helped
  • One thing – TOD
• www.youscience.com
Who is SREB?

- Formed by southern Governor’s in 1948. Current Chair is Governor Edwards of Louisiana.
- The nation’s largest and oldest school improvement effort focused on CTE – High Schools That Work (HSTW).
- Has an annual summer conference with 4000-5000 participants.
- Currently has multiple grants to improve academic and career technical instruction.
Where did AC come from?

• Multi-state effort to fill voids in specific industry areas in that state
• Patterned after other successful CTE Curriculum efforts
• Attempt to blur lines between secondary, postsecondary and workforce learning
• Development involved states’ workforce and postsecondary along with secondary
Key Elements

• Ready-to-implement pathways: [16-17 Info\AC Marketing\AC Units\IPT-C1-P1-TV-PW-111914.pdf]

• Four course sequence can be implemented in comprehensive HS, CTE HS or Technical College

• At least courses three and four dual credit

• Each course – 4-6 fully developed, authentic project-based learning units of study

• Each project embeds ELA, math, science and industry problem solving process

• Virtual industry mentor provided by Siemens

• [http://www.sreb.org/AC](http://www.sreb.org/AC)
Anatomy of an AC Project

Standards Addressed in Each AC Project

• Technical skills and the use of technology
• Mathematics
• Research
• Reading technical-related documents
• Writing: preparing a written design, work plan and final report

21st-Century Skills

• Imagination and Innovation – Thinking Creatively
• Critical Thinking – Solving Problems
• Communication and Collaboration – Communicating Clearly
The Advanced Career Pathways

- Informatics (Business) - KY
- Innovations in Science and Technology - AR
- Global Logistics & Supply Chain Management - NJ
- Aerospace Engineering - AL
- Clean Energy Technology - SC
- Energy and Power - WV
- Health Informatics - OH
- Integrated Production Technologies (Advanced Manufacturing) - KY
- Oil & Gas — first course ready fall 2017 – TX
- Automated Materials Joining — first course ready fall 2017 – OH
Does it Work?

- Surveys of students and teachers
- 77% of AC students say that this AC course helped them in determining a career goal after high school
- 67% of AC students say they work in teams on projects
- 88% of AC students find the AC courses rigorous
- 80% of AC students like the blend of hands-on activities, academics and creative thinking in the AC class
- 77% of AC students would recommend this course to a friend
- Over 80% of AC students plan to take all four AC courses
All Available for Adoption

Highlight Three Pathways for Louisiana

Low equipment costs
Aimed at smaller schools
Advanced Career

Global Logistics & Supply Chain Management

Projects Engage Students in Solving Real-World Challenges

EQ. How can packaging and freight classification affect pricing?

Course content examples:
- Inventory Management
- Supply Chain for Manufacturing
- Transportation Optimization
- International Shipping Regulations
- Information Technology & e-Commerce
- Business Ethics

Louisiana Believes
AC Global Logistics & Supply Chain Management
Prepares Students for Postsecondary Options and Careers

High School Industry Certifications

Manufacturing Skill Standards Council (MSSC): Certified Logistics Technician

Diploma, Certificate, Associate's & Four-Year Degree Options (Eight Examples)

Diplomas
Logistics Management
Supply Chain Management

Technical Certificates
Certified Warehousing
Distribution Specialist

Associate’s Degrees
Logistics & Supply Chain Management
Supply Chain Management

Bachelor’s Degree
Supply Chain & Logistics Management
Transportation Management

Global Logistics & Supply Chain Management Jobs & OJT (Eight Examples)

Capacity Account Manager
CDL-A Driver
Computer Scientist
Diesel Technician
Inventory Control Manager
Maintenance Technician
Scheduler
Supply Chain Planner
Projects Engage Students in Solving Real-World Challenges

EQ. How can we design a system to better track inventory and make purchasing decisions?
AC Business Informatics
Prepares Students for Postsecondary Options and Careers

High School Industry Certification
Microsoft Office Specialist (MOS)
MOS Expert
MOS Master

Diploma, Certificate, Associate's & Four-Year Degree Options
(Eight Examples)

Diplomas
Business Informatics
Computer Information Systems

Technical Certificates
Business Analytics
Data Visualization

Associate’s Degrees
Data Science
Information Technology

Bachelor’s Degrees
Business Informatics
Computer Science

Business Informatics-Related Jobs & OJT
(Eight Examples)

Business Consultant
Business & Operations Analyst
Data Analyst
Data Scientist
Operations Research Analyst
Process Improvement Manager
Researcher
Software Developer
Innovations in Science and Technology

Projects Engage Students in Solving Real-World STEM Challenges

EQ. How can we determine which contaminates impact drinking water quality, and how can we remove them?
Innovations in Science and Technology
Prepares Students for Postsecondary STEM Options and Careers

Developed by Arkansas as less expensive STEM Pathway for small schools

Multiple HS STEM Certifications Possible

Diploma, Certificate, Associate's & Four-Year Degree Options
(Nine Examples)

Diplomas
- Accounting
- Textile Design

Technical Certificates
- Business
- Networking Specialist

Associate’s Degrees & Media Production Technology
- Design

Bachelor’s Degrees
- Actuarial Science
- Biology
- Chemistry

STEM-Related Jobs & OJT (Eight Examples)

Actuary
Biological Technician
Civil Engineer
Computer Information Systems Manager
Industrial Engineer
Sales (Manufacturing, Technology and Scientific)
Security Analyst
Software Developer
Syllabus Review

• Groups of three
• One course syllabus for each of the three pathways is provided
• Wow and wonder to share
  • What is one thing that you like?
  • What is one thing that you wonder about?
• Reduced Costs for participation in the Advanced Career pathway programs of study are based on membership in the HSTW network – One time $2500 for LA Schools
• The participation fee will support ongoing improvement of products and provide support for program-specific technology and other technical assistance and services needed.
• **End-of-Course Assessments** - ($6 per student / 24 students): $144
Summer Teacher Training Institute (STTI)

• STTI Registration: $3,250 per teacher
• SREB has grants to cover 50% of registration
  • Global Logistics – Rutgers, New Jersey
  • Informatics – Northern Kentucky University
  • Innovations in Science and Technology - Arkansas
• Process to earn SREB certification to teach courses
• SREB would offer in a region within the state if at least 5 schools choose to implement
Equipment Costs

Global Logistics & Supply Chain Management
- Course 1: $0 if already have Microsoft Office and a computer lab
- Course 2: $0 if already have Microsoft Office and a computer lab

Informatics
- Course 1: $0 if already have Microsoft Office and a computer lab
- Course 2: $0 if already have Microsoft Office and a computer lab

Innovations in Science and Technology (SREB and NSFY Grants available to assist)
- Course 1: $19,330
- Course 2: $14,884
Yea, but....

- This is great, but we don’t have the funds, don’t have the teacher, lack the facilities...
- How can we implement these?

- Grants to cover costs
- Low material costs (lessons learned from other efforts)
- Creative ideas
Unique Implementation Models

- Partner with Technical College – Clay County, WV
  - Multiple, small rural schools participate together
  - Courses offered in Junior and Senior years
  - Courses offered at Technical College in region
- Fountain Lake High School, Arkansas
  - Innovations in Science and Technology – Use science teachers for low cost effort for STEM in small, rural schools
- Frankfort HS, KY
  - Used math teacher to get trained and teach Informatics
- Berkley County, SC school got business partner to sponsor Aerospace
- Madison HS, FL – Energy and Power with Florida Power as partner
- Best Opportunity in LA: New Skills for Youth (NSFY)
Memorandum of Understanding

• Implement with fidelity
  • Course 1
  • Offer at least two courses by year 3
• Administer EOC to all students
• Academy design
  • Common planning
  • PLC - Science, Literacy and Mathematics
• Enlist Industry and community partners and postsecondary partners
• Teacher attends full STTI
SREB’s Other Tools to Support Jump Start

- Authentic PBL Training involving Business/Industry for Current Programs
- Shifting from Counseling for College to Counseling for Careers
- CTE Pathway Reviews
- Support to develop new pathways (KY Health)
- Fast-track Alternative Certification Program
- Readiness Courses
Remember, all schools and all teachers want to improve. However, few want to change. The fact remains that to improve, one must change!

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- #AdvancedCareer