STEM Rich Career and Technical Education: Pathways to a Clean Energy Future

Different Drummer Program
Cumberland County Public Schools

Angela Whittaker M.S.Ed., LEED GA
Sustainability and Renewable Technologies Instructor
awhittaker@cucps.k12.va.us
Giving Shape to a Dream

- From “Grassroots” to STATEWIDE
- Different Drummer Program
- “How To Get Started...”
- Lessons Learned

Different Drummer

Education that Inspires, empowers, and engages young people to their core sense of belonging.

Connecting young people to their community.

Pumping together the BIG PICTURE of how education and bring about change.

CTE Focus

Green Became Gold

Cuts in K12 Funding

School Reform

Federal Support

STEM
Program Design

- Foundation in Education for Sustainability
- Service Learning Base
- Available to ALL students
- Courses articulated to Virginia Community College System
- Dual Enrollment
- Curricula supports for teachers
- Teacher training

http://sacredmatrix.com
Sustainability and Renewable Technology

• Course 1 – Validate by Industry and Educators
  • In-depth study of the Social, Economic and Environmental Issues that have created global climate change – Sustainable Education
  • Introduces the major renewable and alternative energies driving the “green” workforce
  • Provides foundations in basic craft skills
  • Establishes service learning projects and mentoring programs within the school division
  • Offers NCCER certification for “Your Role in the Green Environment”
  • Career Safe Certification
  • SOL aligned and adopted to state CTE curriculum in Virginia
  • Task competencies will go on state website this spring

www.cteresource.org
Renewable Energy and Green Building Design

- **Course 2** - “Renewable Energy and Green Building Design”
  - The science, technology and mechanics of:
    - renewable energy systems design and installation
    - green building design
  - **Credentials and outcomes**
    - Basic craft skills – NCCER Core Curriculum Certification
    - Green Advantage Certification
    - Prepares students for worksite and installation certification in PV, Solar Thermal and Small Wind Systems
    - OSHA 10 card
  - **Time-line**
    - Proposal to VDOE March 2011
    - Validation and design summer 2011
    - Pilot 2011-2012 school year

http://www.bakkt.com/"q-earth-globe.aspx
How to get started

• Create a Team
• Gather the data
• Network and establish relationships
• Get told “NO”
• Persist
• Modified the “Program”
• Create Change
Final Thoughts

• Get the Proper Credentials

• Share

• Celebrate

• Have Fun

Getting started:
Create a Team and Define the Vision

• Core members that can hold the Vision
  • Set your Mission and Vision statements
• Secondary members who can define a plan without losing the potential
• Know that all things change and grow
• Meet and Communicate regularly
  • Administrative support
  • Establish an identity within school-wide initiatives
• Share the responsibility…
Gather the DATA

• State DOE, workforce development and industry resources
  • Job growth in your state / region
  • Sources should include:
    • National and state reports from Department of Labor
• Define how your program will meet school and state educational goals
• Research what has already been done
  • Establish relationships with different agencies who can provide resources and support
  • GBCI, SEI, IREC, ...
• Be aware of what community college systems are doing
  • Be sure you can articulate into their programs
  • Establish dual enrollment criteria – where appropriate
Networking and Timelines

• Timing is critical...Budgets are outlined in Dec. – Jan.! Get on the proposed plan for next year

• Lay the ground work by educating the important players
  • Assistant Superintendent, CTE coordinator, High School Principal

• Know how CTE courses are developed in your state. What supports are available?

• Demonstrate how your proposal is what they have asked for...

CTE REFORM and 21st CENTURY JOB SKILLS!
The BIG Presentation

- A comprehensive presentation to your administrative team should include:
  - Data on job growth that justifies your program offerings
  - Explain what programs/curricula exist and what needs to be created
  - Lay out the benefits to the school, county, region
  - Have a clear plan for the courses and the way they articulate to workforce and/or 2-4 year schools
  - Where will the MONEY come from
    - Regional CTE centers are easier to finance because of diversified support
    - Need a governing educational body...who are you proposing?
  - Create a sense of optimistic urgency
  - Leave the meeting with a plan for the next step and who is responsible for it (if at all possible)
Persistence is KEY

- Use your support groups and teams
- KEEP a contacts log
- Allow things to unfold
- Keep in touch...Out of Sight IS Out of Mind
- Get the proper education, credentials
- Start with specific and attainable goals
- Celebrate the successes of your efforts