Vision and Commitment Shaping Technical Training

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Overview

- Original Thought, Creative Vision
- Building Support, Pursuing the Goal
- Our Team
- Curriculum Overview, the Way Ahead
- Key Takeaways
➢ Original idea sprang from an energy savings initiative by Iowa Lakes Community College

➢ Led to the purchase of a wind turbine

➢ Vestas, 1.65 MW V-82

➢ Today, power sold to the City of Estherville covers the cost of utilities at the Estherville campus at about $140,000, or 1/3 the cost of all 5 campuses
Creative vision was born of two simple questions:

- “Who trains wind turbine technicians?”
- “Why not Iowa Lakes Community College?”

Creative Vision, realized

Nov 2003, IA Board of Education approved state’s first program at Iowa Lakes Community College

Nation’s first to offer an Associate in Applied Science degree in Wind Energy and Turbine Technology

1 instructor, 15 students in first class, Fall 2004

1 lecture room, 1 lab

Spring 2005, turbine dedicated

Fall 2007, expanded facility opened
Creative Vision, continues

- Phase 2 addition to the facility now open
- Vestas V-90 nacelle on short tower
- Gamesa G-87 nacelle awaiting short tower
- Substation ready for assembly
- 4 lecture rooms, 6 labs
- Staff of 8 ready to serve nearly 200 students in Fall 2010
Building support begins with leadership

- Top-down support drives the train
- Industry partnerships/advisory committee provide insight and assistance
  - Clipper, Vestas, Suzlon, NEXTera Energy Solutions, Edison Mission Energy, enXco, Iberdrola Renewables, Iowa Lakes Electric Cooperative, WindIngen (a division of MD & A), among many others

- Assertive pursuit of funding absolutely crucial, from grants to congressional inserts
- Aggregate investment: $6M+
Pursuing the Goal

➢ Our mindset:
  ➢ Strategic thinking, future-focused, from campus to curriculum
  ➢ Improving training campus to provide the best possible learning environment
  ➢ Instructional System Design and analysis to improve curriculum and delivery methods
  ➢ Staff development is critical to program success
Our Team

- Began with one instructor with wind farm experience and industry knowhow

- Team now includes:
  - Dr. Ahmad Hemami – Electrical Theory/Applied Physics
  - Craig Evert – Field Training/Wind Industry Mgt.
  - Doug Zemler – Power Generation/Programmable Logic
  - Pat McCoy – Wind Sighting/Airfoil Technology
  - Doug Enger – Supervisory Control and Data Acquisition
  - Steve Homan – Mechanical Systems
  - Angie DeJong – Program Coordinator
Our Team

Team *also* includes:

- Families
- Communities
- Students
- Advisory committee comprised of industry experts and educational experts
Program offers an AAS in Wind Energy and Turbine Technology (80 cr) with a diploma option after the 1st three semesters (48 cr)

Prospective students must demonstrate through ASSET, COMPASS, ACT, or appropriate level transcript, that they are eligible to enroll in, or have completed, Intermediate Algebra or higher before acceptance
Curriculum Overview

- 9 focused areas of study/200+ competencies
  - Introduction to Wind Energy
  - Field Training and Project Operations
  - DC Electrical Theory
  - AC Electrical Theory
  - Basic Hydraulics
  - Wind Turbine Mechanical Systems
  - Electric Motors and Generators
  - AC Electrical Theory II
  - Internship Preparation Safety Course
Articulation with University of Iowa

- Transfers credits toward electrical or mechanical engineering areas of study with elective focus on wind energy
- Students transfer 31 credits for mechanical engineering and 40 credits for electrical engineering
- AAS+84 UI hrs = BSME/AAS + 92 UI hrs = BSEE

Program goals:
- Logical path for professional growth
- Provide experience base for UI’s wind energy programs
- Develop industry talent pool
Way Ahead

- Apply instructor expertise to training campus improvements/trainer build-up
- Bring facility vision to fruition
- Apply ISD principles to our courseware to permanently capture instructors’ contributions
- Continue to look for new program elements and educational tracks to add
- Improve Staff Development
Key Takeaways

- Building a quality program is complicated
- Leadership and vision are keys to moving forward
- Relationship management and partnership building are absolute musts
- Assertive funding pursuit helps tremendously
- Staff has to be “in it to win it” for the right reasons
- Community must be behind you and clearly understand what’s in it for them
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