Transforming the College of Technology

Update – Purdue Polytechnic Institute

Gary Bertoline, Ph.D.
Dean, College of Technology

April 10, 2015
Discussion Topics

Accomplishments, Milestones, and Challenges

- Recent Accomplishments
  - Fall 2014 first-year cohort
  - Industry-sponsored senior capstone projects
  - Competency-based degree

- Major Milestones in Next 6 Months
  - Fall 2015 first-year transformed program
  - New degrees and majors
  - Faculty professional development
  - Formal name change of college

- Key Challenge
  - Space
Recent Accomplishments

Fall 2014 First-Year Cohort

- First MAJOR goal of the college’s transformation was achieved Fall 2014
- Delivered small-scale “pilot program” for 35 students
  - Student-centered active learning project-based approach
  - Integrated curricula – technology, English, communications
  - Faculty mentorship of students
  - Development/testing of badges and competencies
- Lessons learned being applied to Fall 2015 first-year program for 725 students
  - Lessons learned also being applied to new competency-based transdisciplinary degree program
Recent Accomplishments

Industry-Sponsored Senior Capstone Projects

- Key experiential program – grew to 35 industry-sponsored senior capstone projects
  - More than doubled from previous year
- Offered to 100+ engineering technology students
- Developing model to be applied across all departments
- All departments developing capstone experience (preferably industry-sponsored) for all fourth-year students
- Relies on strong engagement and industry partnering
Recent Accomplishments

Competency-Based Degree

- Won President’s challenge to develop university’s first competency-based degree
- Faculty who built degree includes faculty from outside of College of Technology
- Collaborated with Provost’s office to refine final proposed degree on your agenda for approval
  - B.S. Degree in Transdisciplinary Studies in Technology
  - Intentional balance between STEM and liberal arts
  - Contains student self-paced component
- First of a kind at Research Tier 1 university main campus
Recent Accomplishments

All six departments’ faculty in the college voted to “go all-in” by adopting the Polytechnic principles and practices.

Lilly Endowment grant that includes programmatic support to support the transformation.

Reversed decade long fall in undergraduate enrollment starting Fall 2014.

Research awards were the highest ever last year.

Cash donations increased for the third year in a row.

We are a Transformational College Unbounded by Tradition …

Pioneers of Learn-By-Doing and Use-Inspired Research

Students First

IN ALL WE DO
Major Milestones in Next 6 Months

Fall 2015 First-Year Transformed Program {aka i³TECH}

- Exciting plan for Fall 2015 first-year students (725 of them)
- Doubling the contact hours for TECH 120 course – required for every College of Technology student
- Student-centered active learning – fosters critical thinking, builds sense of community, includes faculty mentorship
- Partnering with School of Communications and Department of English to offer synchronized context and delivery across 3 domains – Comm, English, and Tech
- Enormous benefit of this approach is widely published – we’re among the first to implement on such a large scale
Major Milestones in Next 6 Months

New Undergraduate Degrees and Majors Approved and Under Development

- New Degrees/Majors Under Development Include:
  - Aerospace Financial Analysis
  - Airport Management and Operations
  - Unmanned Aerial Systems
  - Demolition and Restoration Management in the Built Environment
  - Healthcare Construction Management
  - Health & Healthcare Technology
  - Game Studies
  - Human-Centered Design and Development
  - Computer Security & Forensics
  - Advanced Manufacturing Technology
  - Mechatronics Engineering Technology
  - Robotics Engineering Technology
  - Supply Chain Management Technology
  - Transdisciplinary Studies in Technology (competency-based; pending approval)
Major Milestones in Next 6 Months

Faculty Professional Development

- Faculty professional development is lynchpin for success
  - Several programs being offered Summer and Fall 2015 with a goal to flip our classrooms and flip our faculty.
- Leveraging IMPACT program (also a Purdue Moves initiative) for all of our faculty who instruct undergraduates
  - Goal is to have all faculty complete the program by Dec 2017
- Experience of past 18 months demonstrates this is a process – it takes time, but progress is being made
Major Milestones in Next 6 Months

Formal Name Change of College of Technology

- Pursuing formal name change of College of Technology
  - Marketing study by external firm just completed – included focus groups and surveys with employers, students, faculty, and alumni
  - “Purdue Polytechnic Institute” or perhaps “Purdue Polytechnic”

- Great opportunity to re-brand the college and add to Purdue’s national prominence
  - Springboard for further reform/transformation of higher education

- Will require significant and sustained public relations effort that addresses all stakeholders
Key Challenges

Space

- Growing enrollment, growing faculty, and new teaching methods (that use new teaching spaces) require more space, adding to the college’s space challenges
- Recently completed a quantitative analysis of space requirements that are tied squarely to our transformation
  - Submitted to VP for Physical Facilities and to Provost
- Currently working with Physical Facilities to explore options
Final Thoughts

Transformation of College of Technology is on Track

- On track to meet goal of “completing the transformation” by 2017-18 academic year
  - First-year program milestone – Fall 2015
  - Second-year and fourth-year program milestone – Fall 2016
  - Third-year program milestone, including internships – Fall 2017
- Support of the Board of Trustees, the President, and the Provost is greatly appreciated
- Polytechnic transformation has already gained Purdue national recognition that will only increase