Strategic Plan 2010

Academic Thematic Areas

Strategic Planning Review
February 5, 2010
Organizing Principles

- Theme Represents an Area of Broad Societal Impact that Connects to NJIT Core Competencies
- Theme Can Engage Participation from Every Sector of the Academic Community
- Theme Can Stimulate Activities Across the Modalities of Discovery, Integration, Application and Instruction
- Theme Can Lead to Demonstration Projects Suitable for Student Involvement
Sustainable Systems

- How do we replace our industrial infrastructure with environmentally benign equivalents without loss of quality of life?
- How do we use design to create living environments that are environmentally benign?
- How do we replace aging civil infrastructure with resilient systems?
- Can we remove the technical roadblocks to cost effective alternative energy production schemes – solar, wind, biomass, geothermal?
- What will be the ramifications for everything from portable devices to civil infrastructure?
- How will the advent of diverse and distributed energy production schemes change the distribution industry?
- How will “green” behaviors be monetized?
Life and Healthcare Science & Engineering

- How will the mapping of the Human genome lead to medical treatments for congenital, degenerative, infectious disease and injury?
- How will biological science produce new concepts of material composition and structure? Of computation?
- How will the Pharmaceutical industry change or adapt to fundamentally new models of therapeutics?
- How can physician education be changed to increase the understanding of biological systems and of technological interventions for better diagnosis and treatment?
- How will personalized medicine change the practice of healthcare?
- What can business process re-engineering do to enhance the healthcare delivery system?
Digital *Everyware*

- What technologies will produce reliable, high bandwidth communications?
- What device and user interface concepts will expand the use of computing to new and innovative applications?
- How will openly accessible data remain secured?
- How will the integrity of complex software systems be maintained?
- What happens to the broadcast, telecom and print media industries?
- How will innovative companies form or grow?
Design Professions

- Can we teach the creative process?
- What can engineers learn from the arts and the arts from engineers?
- Is there a formalism to problem solving that transcends the specific discipline of application?
- How do we create more career relevant advanced degree programs?
Penetration of Thematic Area Content into 60% of Courses

- Define college specific core concepts to connect with shared thematic area content
- Create professional Masters degrees in thematic areas
- Exploit new media to introduce thematically relevant material
- Develop faculty training programs in instruction and instructional technology
- Establish standing faculty/staff committee to oversee curricular reform, P&T metrics for scholarship of instruction, effectiveness of tactics
Increase in Scholarly Activities Related to Thematic Areas

- Develop a web portal for thematic areas
- Conduct faculty searches in thematic areas
- Proactively seek large-scale R&D opportunities using response teams
- Establish standing faculty/staff committee to formulate P&T performance metrics for scholarship of integration
Expand Relations with Relevant Professions

- Dedicate staff function to external event management and facilitation
- Develop standard event package and pricing model
- Integrate student professional society activities with local chapters
- Host on-campus awareness days for key corporate partners
- Expand summer internships for faculty and staff
Demonstration Environments in the Thematic Areas

- Coordinate with Development to identify industrial partners to provide matching "funds"
- Develop communication plan to generate public attention
- Identify grant opportunities for curricular innovation
- Seek workforce training funds for demonstration projects
- Establish standing faculty/staff committee to formulate P&T performance metrics for scholarship of instruction, integration and application