Bruce Bukiet: Baseball fits neatly into a concept of probability theory known as a Markov Process

“According to a statistical model that Bukiet has been refining for more than a decade, the Phils will wind up in a three-way tie in the National League East, with the Mets and the Braves.” Philadelphia Inquirer, April 6, 2009.

2008 results: predicted only 1 of 6 divisional champions

Yogi Berra: It's tough to make predictions, especially about the future.

Is random guessing more accurate than statistical predictions?

THE EDGE IN KNOWLEDGE
Strategic Plan

• Vision: A preeminent technological research university known for innovation, entrepreneurship, and engagement

• Priorities
  ➢ Quality of life
  ➢ Private funding
  ➢ Research funding/intellectual property management
  ➢ Developing nationally known programs
  ➢ Student recruitment
Quality of life

✓ Facilities upgrades
✓ Campus Center
✓ Landscaping
✓ Alumni Center
✓ Athletic program
✓ Central High
→ Campus Gateway Plan
→ Campus Master Plan
Private funding
✓ Honors Campaign completed-goal exceeded
✓ Athletics Campaign goal met
✓ Dollars raised increased 40% since FY04
→ Comprehensive Campaign efforts begun

Research funding/intellectual property
✓ Reestablished the Office of Technology Development
  • Invention disclosures tripled (30 to 90) FY03 to FY08
  • Patent applications doubled in past 4 years to 250 pending
  • License revenue averaging about $400,000 past four years compared to $16,000 in 2003
Research funding/intellectual property

✓ Research expenditures
  • FY07 external expenditures topped $45 million
  • FY08 total expenditures approached $90 million
→ Big Bear Solar Observatory
Completing construction of
World’s largest ground-based
solar optical telescope
→ NSF ERC for Structured Organic
composites a visible link to the
pharmaceutical industry
✔ Developing nationally known programs

✔ Rebranding/ marketing program
Developing nationally known programs

- Mathematics nationally recognized for fluid dynamics/mathematical biology
  - Ranked 10th in US by Academic Analytics
- A *US News and World Report* Top Tier National Research University
- Named among the top 50 public undergraduate institutions for value by the *Princeton Review*
Student recruitment

- Honors College enrollment increased from 500 to 600
- UG Hispanic and African-American enrollment 30% of freshmen
- Freshmen retention rate over 80% (95% for Honors; 84% for EOP)
- First-time freshmen over 900 fall 08
- Fall 09 enrollment projected over 9,000
New Programs

✓ About 30 over 3 years (16 in fall 08)
  • Architecture: programs to transform the School to a College of Architecture & Design
  • Engineering: MS programs related to Bio and Pharma
  • Management: programs in international business and at the interface of business and computing
  • Computing Sciences: interface programs with Management, security, software engineering
  • Science and Liberal Arts: programs related to Bio, mathematical finance, pre-law
School of Architecture
- BS/BArch Architecture
- BS Industrial Design
- MS/MArch Architecture
- M Infrastructure Planning
- PhD Urban Systems

School of Architecture
- BS/BArch Architecture
- MS/MArch Architecture
- M Infrastructure Planning
- PhD Urban Systems
- BS Landscape Architecture

School of Art & Design
- BS Industrial Design
- BA Interior Design
- BA Digital Design
- BA Graphic Design
- BFA Art

College of Architecture & Design

Transform
NJIT Campus Gateway Plan
NJIT Campus Gateway Plan Objectives

- Develop a “college town” neighborhood with amenities for students, faculty, staff, community
- Ensure a development effort that enhances NJIT and the community
- Grow the Greek community to levels above 1990 on a normalized basis
- Ensure viability of the Greek community

<table>
<thead>
<tr>
<th>Year</th>
<th>Members/Greek org</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>30</td>
</tr>
<tr>
<td>2006</td>
<td>18</td>
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- Enhance the physical/social/recreational environment of the Greek community
Master Plan

Legend
- Retail
- Residential
- Dormitory
- Community Building
- Greek Meeting Facilities
- Hotel
- St. Michael’s Hospital
- Physician Offices
- St. Michael’s Potential Expansion
- Academic
- Greek Fraternities
- Conference Center
- Greek Community Buildings
- Loading/Delivery Service
- Parking
- New Development
- Existing Buildings
MLK Pedestrian “thread”
C. Special Area Provisions

New Jersey Institute of Technology Gateway Plan
AERIAL RENDERING
NJIT’s campus master plan will enable growth in a way that establishes a network of open spaces, buildings, and pedestrian paths that connect the core campus to neighboring institutions and downtown Newark. The master plan also incorporates plans for new parking lots, the physical character of campus will be dramatically improved.

MASTER PLANNING PRINCIPLES
The planning principles connect our strategic mission with our physical campus.

1. Establish a clear presence and character
   - Define site edges
   - Create identity and powerful gateways
   - Strengthen pedestrian connections to downtown and surrounding neighborhoods
   - Create key transition points within the campus as a whole

2. Create a strong central core
   - Increase the green spaces on campus
   - Maintain and develop an integrated layout
   - Create connections between existing outdoor recreation areas
   - Create powerful view corridors

3. Realize potential to create a distinctive sequence of view from future University of NJIT, Bldg.

Develop a
- Master
-把它
-系统
-能力
-开发
Major issues

➢ Shortfalls in state funding
➢ Rising tuition

NJIT State Shortfall

NJIT Tuition & Fee Increases

New Jersey's Science & Technology University
NJIT Tuition & Fee Increases

NJIT Tuition & Fees