Strategic Directions of Princeton Engineering

EDGE Lab Open House
April 2011
Princeton Engineering – Who & What

Footprint within Princeton:
- 1/6 of the faculty members
- 1/5 of the undergraduates
- 1/4 of the graduate students
- 1/3 of the external research funding ($61 million out of $177 million)

Six Academic Departments (130 faculty, and growing):
- Chemical & Biological Engineering
- Civil & Environmental Engineering
- Computer Science
- Electrical Engineering
- Mechanical & Aerospace Engineering
- Operations Research & Financial Engineering

A Number of Centers & Institutes (will mention some)
A Legacy of Impact

Through its research and teaching, Princeton Engineering makes profound contributions to solving societal problems and prepares new generations of leaders.

Promotes vibrant culture of innovation, entrepreneurship, and service

High-impact alumni
Excellence

Five Princeton Engineering departments were ranked in the top 10 by the National Research Council in 2010.

Ranked #4 engineering school in the world by Times/Thompson-Reuters, also in 2010.

19 members of the National Academy of Engineering.

Traditional strengths in combustion, hydrology, information technology, materials, etc.

Many top student honors (valedictorians; salutatorians; int’l competition winners).

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<th>DEPT</th>
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<tr>
<td>CEE</td>
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<td>CBE</td>
<td>3-10</td>
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<td>MAE</td>
<td>4-11</td>
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Strategic Priorities

Energy & Environment

Health

Security

Preparing Leaders
Andlinger Center for Energy and the Environment
Emily Carter, founding director
Building 127,000 s.f. new lab, teaching and meeting space

Area of intense interest among students and faculty

Sustainable energy development; energy conservation; environmental protection and remediation

Translating fundamental knowledge into practical solutions
Engineering for Health

Renamed Department of Chemical and Biological Engineering highly popular with students

Close ties with Genomics and Neuroscience institutes and Woodrow Wilson School

MIRTHE NSF Engineering Research Center

Successfully negotiated for major expansion of lab space for biological engineering
Center for IT Policy

A leading voice in academia, industry and Washington since founding in 2005

Ed Felten, founding director, currently on leave as chief technologist for Federal Trade Commission

Funding from Microsoft, Google and others

Many short- and long-term visitors enable vibrant series of seminars and conferences
Preparing Leaders

Keller Center
Preparing leaders for a technology-driven society
Engaging all Princeton students
Innovation within and beyond the classroom
Sharad Malik, Director

New Certificate Program
Entrepreneurship
Internships
Rapid and substantial growth
Progress since 2006 – People

Engineering Undergraduate Course Enrollment

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<tr>
<th></th>
<th>AY05-06</th>
<th>AY10-11</th>
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<tr>
<td></td>
<td>4,099</td>
<td>5,800</td>
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<tr>
<td>Change</td>
<td>41%</td>
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BSE Students (Opening Spring Term)

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<tr>
<td></td>
<td>748</td>
<td>912</td>
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<tr>
<td>Change</td>
<td>22%</td>
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Engineering Graduate Students

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<tr>
<td></td>
<td>500</td>
<td>557</td>
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<td>Change</td>
<td>11.4%</td>
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Engineering Faculty Headcount (as of July 1)

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<th>AY05-06</th>
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<td>125</td>
<td>130</td>
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<td>4.2%</td>
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Progress since 2006 – Resources

- Externally-Sponsored Research
  - FY06: $48,889,210
  - FY10: $61,094,172
  - 25% Change

- Engineering Endowment Market Value (excluding dept. endowments)
  - FY06: $65,793,057
  - FY10: $123,106,050
  - 87% Change

- Engineering Space (in g.s.f.) Actual
  - FY06: 584,156
  - FY10: 643,708
  - 10.2% Change

- Engineering Space (in g.s.f.) Committed
  - FY06: 584,156
  - FY10: 807,129
  - 38.2% Change
Princeton Engineering – Where & How

(Approximately 750,000 gsf by 2015)

Aspire Campaign: $325m for Engineering and a Sustainable Society (2/3 raised)
Aspire Campaign

Foundational gifts for Energy & Environment ($100M) and Preparing Leaders ($20M). Also $20M for Sherrerd Hall. More to come …

83% of Total Campaign Period Elapsed

Gifts-in-Queue: $25M
Engineering and a Sustainable Society

Questions or Comments?