Percent Completion of Strategic Goals

- **Governance**: 58%
- **Education**: 37%
- **Research**: 66%
- **Service**: 82%

*SEDAPP designXchange 2017*
Fall Headcount

10-Year Comparison: Fall UG Headcount

10-Year Comparison: Fall Masters Headcount

10-Year Comparison: Fall Ph.D. Headcount

Engineering
Degree Comparison by College

Percentage of degrees awarded by University Park colleges in 2015-16.

- Engineering
- Science
- Liberal Arts
- Education
- Earth & Mineral Sciences
- Ag Sciences
- Business
- HHD
- Others
Degree Comparison by College

Percentage of degrees awarded by University Park colleges in 2015-16.
Degree Comparison by College

Percentage of degrees awarded by University Park colleges in 2015-16.
Data are based on PSU Annual Report of Research Activity
People

31 ADDITIONAL SEARCHES UNDERWAY

39 new professors
(including co-hires with Huck, Rock, ICS, Science, Medicine, MRI)

21 new staff
Female Students

8,371

Percentage of females in incoming class: 24%
### Education

#### One-Year M.S. and M.Eng. Degrees Launched

<table>
<thead>
<tr>
<th>Year</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>99</td>
</tr>
<tr>
<td>2016</td>
<td>147</td>
</tr>
</tbody>
</table>
### Education

**Research Experience for Undergraduates**

<table>
<thead>
<tr>
<th></th>
<th>Multi-Campus</th>
<th>CERI</th>
<th>BEU</th>
<th>TAMU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects</td>
<td>154</td>
<td>235</td>
<td>10</td>
<td>12</td>
</tr>
</tbody>
</table>

**Research at the Capitol Event:**

- **10** projects will represent *Penn State*
- **3** projects came through these programs
Students Funded by Fellowships

- DTF
- DIEGF
- GEF
- UGF

Yearly breakdown for the years 2012-13 to 2016-17.
Education

- Progress in M.S. Definition
- Expanded Online Program
- New Digital Learning Office
- National Grand Challenge Engineers
Research

ACCOMPLISHMENTS

CHALLENGES

ASPIRATIONS

Food-Water-Energy

Advanced Manufacturing

Integrated Electronic Optical Energy Functions

Printing Life

Freeform Components

Resilient Infrastructure

Cyberenvironments

Junior Faculty Research Mentoring
Accolades

Lyle Long wins AIAA Aerospace Software Engineering Award » 12/16/2016

Alex Rattner named 2016 Howes Scholar » 6/21/2016

Joan Redwing named American Association for the Advancement of Science Fellow »

Computer Scientist's 'Musical Minds' earns him fellowship » 7/28/2016

Long-Qing Chen named a Minerals, Metals and Materials Society Fellow » 2/2/2017

Engineering student, faculty receive ASME best paper award » 8/12/2016

ENGINE grants support innovation and entrepreneurship » 1/27/2017

Conrad Tuck
10/24/2016

Akhlesh Lakhtakia elected Royal Society of Chemistry Fellow » 7/26/2016

Penn State named one of five inaugural Moore Inventor Fellows » 11/14/2016

State road research center earns state training award » 9/2016

Michael Tonks named Presidential Early Career Award winner » 1/27/2017

Philip Savage named CIC Department Executive Officer Fellow » 1/27/2017

Penn State named to 2016 Top 100 Defense Firms » 8/26/2016

Pat aWorld » 10/27/2016

Six faculty named Dean's Fellows » 1/12/2017

Gülf E. Kremer honored with prestigious engineering award » 8/2/2016

Four Distinguished Teaching Fellows selected in the College of Engineering »

Pak Kin Wong named Society of Laboratory Automation and Screening Fellow »

Bruce Logan named a Thomson Reuters 'Highly Cited Researcher' » 2/7/2017

Penn State father and son win Canadian Society for Civil Engineering awards » 7/22/2016

Three Penn State researchers win Rustum and Della Roy Awards » 1/1/2017

Two biomedical engineering faculty members named AIMBE Fellows » 1/18/2017

Farshad Rajabipour named American Concrete Institute Fellow » 1/9/2017

Sumeet Gupta
11/1/2016
Communications

**ACCOMPLISHMENTS**

**CHALLENGES**

**ASPIRATIONS**

**COLLEGE AND DEPARTMENT MONTHLY E-NEWSLETTERS**

**Communications**

**Engineer Penn State**

**Department of Chemical Engineering**

**Penn State College of Engineering**

**Academic Qualia**
- Academics
- Research
- Graduate and Undergraduate Programs
- Industrial Engineering
- Chemical Engineering
- Aerospace Engineering
- Mechanical Engineering
- Electrical and Computer Engineering
- Civil and Environmental Engineering
- Materials Engineering
- Materials Science and Engineering
- Industrial and Manufacturing Engineering
- Engineering Physics and Engineering Materials
- Engineering and Public Policy
- Engineering Ethics and Professional Practice

- Our Penn State ME, Eng.
- Programs
- Courses
- Concentrations
- Scholars
- Scholarships
- Alumni
- Networking
- Resources

- Graduate Programs in Civil Engineering
- Our faculty work on cutting-edge research topics in areas such as sustainability, climate change, and water infrastructure.

**Marketing to Prospective Grad Students**

- Graduate students are encouraged to share their research and experiences with prospective students.
- Our graduate programs attract top students from around the world who are interested in advancing their careers in engineering.

- Many of our graduate students participate in outreach programs to engage with local communities and inspire the next generation of engineers.

*www.psu.edu*
DEPARTMENTAL REVIEWS
Related to education and research, to add to finance and personnel reviews of spring 2016

- **Fall 2017**
  - ESM
  - IME
  - CEE

- **Fall 2018**
  - Aero
  - BME
  - EECS

- **Fall 2019**
  - SEDTAPP
  - AE
  - MNE

- **Fall 2020**
  - ABE
  - ChE
Governance

1. Raise awareness of the challenges
2. Help College build inclusion skills
3. Build new infrastructure
4. Address resource-based issues

SURVEYS COMPLETED
2,466

RESPONSE RATE
25%
Undergraduate: 20%
Graduate: 30%
Faculty: 45%
Staff: 69%
Governance

PennState College of Engineering

Chemical and Biomedical Engineering Building
GROUNDBREAKING
01-20-2017
Governance

E-knowledge Commons Groundbreaking

Agricultural Engineering Building

The Collaboratory
90,000 sqft / $110M
Undergraduate Fall Enrollment

<table>
<thead>
<tr>
<th>Year</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>6,800</td>
</tr>
<tr>
<td>2013</td>
<td>7,220</td>
</tr>
<tr>
<td>2014</td>
<td>7,622</td>
</tr>
<tr>
<td>2015</td>
<td>7,846</td>
</tr>
<tr>
<td>2016</td>
<td>8,184</td>
</tr>
</tbody>
</table>

FA2007-FA2015 data based on iTwo Official Enrollment dashboard data. FA2016 data based on official enrollment data provided by the University Budget Office.
**Research**

**CHALLENGES**
- 800 proposals valued at $350M (typical number is 700)
- Retention of research admin staff members due to stressful deadline-driven activity, over-burden of volume, and opportunities elsewhere
- Growth in proposal numbers and complexity
- Demand for research admin professionals elsewhere due to retirements, central SIRO
- Long Penn State contract negotiation times

**SOLUTIONS BEING EXPLORED**

**Organizational structure**
- Assistant director
- Load-level via staff cross-training
- ‘Right-size’ coordinator staff
- Creating career progression model

**Proposal submission process**
- Improve tools and processes
- Allow faculty and departments to draft budgets
- Allow some aspects to slide until time of award
- Stream-lining of proposal submission
- Sharing effort with Central (at cost)
Comparison with Top 12 (2015)

Ratio of PSU ENGR Metric-to-Average of Top 12

- T/TT Faculty: 79%
- Undergraduates (per faculty): 166%
- Masters: 28%
- Ph.D.: 59%
- Research $: 34%
Challenges

- Management of non-tenure track careers
- Modernizing our IT teams
- Increasing UG students with global experience
- Achieving a balanced budget
- Expanding the graduate program
- Increasing fundraising income
Unsuccessful Efforts

- Increasing permanent budget consistent with college’s contribution
- Expanding staff to address stress and retention issues
- Securing support for 5-year resource allocation plan (Blueprint for Global Preeminence in Engineering, November 2015)
Aspirations / 2017-18

- Hiring an excellent dean of engineering
- Collaboratory, refurbishment funds, Hammond, Sackett, Units, EE West
- Expand corporate engagement in research, education, and fundraising
- Concluding discussions to change Entrance-to-Major
- Create interdisciplinary majors/minors
- Taking full advantage of size and capability of alumni base
- Strengthening the residential tuition-based M.S. and MEng; Create new societal challenge-based M.S. and MEng
# Dean’s Score Card

## EDUCATION

<table>
<thead>
<tr>
<th>Accomplishment</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance the fundamental undergraduate educational experience</td>
<td>B-/C</td>
</tr>
<tr>
<td>Initiate residence/online cross-Department/cross-College UG majors and minors</td>
<td>C/D</td>
</tr>
<tr>
<td>Offer and expand one-year, non-thesis MS and MEng degrees</td>
<td>A+</td>
</tr>
<tr>
<td>Strengthen and expand Ph.D. programs</td>
<td>A</td>
</tr>
<tr>
<td>Identify and address issues affecting the environment</td>
<td>A+/?</td>
</tr>
</tbody>
</table>

## RESEARCH

<table>
<thead>
<tr>
<th>Accomplishment</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop innovative, interdisciplinary research groups</td>
<td>A</td>
</tr>
<tr>
<td>Increase research collaborations within Penn State</td>
<td>A</td>
</tr>
<tr>
<td>Increase college-wide research collaborations with universities, industry, and global partners</td>
<td>B</td>
</tr>
<tr>
<td>Enhance the quality of key laboratories and infrastructure</td>
<td>F</td>
</tr>
</tbody>
</table>
## Dean’s Score Card

### SERVICE

<table>
<thead>
<tr>
<th>Accomplishment</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase faculty contribution/influence in national and international technical and policy-making committees</td>
<td>D/F</td>
</tr>
<tr>
<td>Raise the profile of and facilitate engaged service on college and campus committees as well as in support of the Commonwealth, the U.S., and international committees</td>
<td>B</td>
</tr>
</tbody>
</table>

### GOVERNANCE

<table>
<thead>
<tr>
<th>Accomplishment</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance business operations, fiscal management, and administrative/academic tasks by faculty and staff</td>
<td>B</td>
</tr>
<tr>
<td>Align committees and sub-units with the College priorities</td>
<td>B+</td>
</tr>
<tr>
<td>Recast the financial system to directly support the fundamental functions</td>
<td>F</td>
</tr>
<tr>
<td>Strengthen institutional affiliation and effectiveness</td>
<td>C/D</td>
</tr>
</tbody>
</table>