DEFINING Tomorrow

A Strategic Plan
The engineering profession is vital to international growth and competitiveness. Educating future generations of engineers and using engineering techniques to create solutions to address the grand challenges facing society are two pursuits that are inextricably linked and, together, comprise the role and highest aspiration of the College of Engineering (COE) at the Georgia Institute of Technology. The COE works at the frontier of research and education, where risks and rewards are high and where the potential benefits to society are the most promising.

The Institute’s long-standing excellence in engineering has been the cornerstone of its reputation, distinguishing Tech from other top-tier institutions. Adding to Georgia Tech’s strength is its commitment to developing new perspectives on the relationship between engineering, science, and technology, and other human enterprises such as business, government, policy, law, and the arts. We are preparing leaders and innovators, which requires expertise in numerous areas and an interdisciplinary approach.

As the largest and most diverse engineering program in the nation, and one of the most excellent in the world, the COE has a critical role in helping Georgia Tech meet its 25-year strategic vision and plan, “Designing the Future,” launched in fall 2010. In its strategic plan, Tech stated that as a result of defining the technological research university of the 21st century, we will be leaders in influencing major technological, social, and policy decisions that address global challenges. We already see that happening.

To facilitate continued excellence and leadership, this plan has been developed to provide College of Engineering strategies and action steps for the next several years that will build upon the goals outlined in the Institute-wide strategic plan. This plan aligns with the Institute’s strategic plan, but with a unique engineering focus. While we realize that many plan objectives are tied to resources and their deployment within the COE, the plan was also designed as a guide for future priorities.

Although it is impossible to reliably predict the future, it is possible to prepare and be poised for success across multiple potential future scenarios. In so doing, the COE will aspire to the “medal stand,” recognized as one of the top three programs in the nation, and continue to be counted among the very best engineering programs in the world.

Gary S. May, Dean
College of Engineering
Georgia Institute of Technology
Planning Process

The COE held a two-day retreat in December 2011 for more than one hundred participants representing all of its relevant stakeholders: faculty, staff, students, and alumni. Prior to the event, the selected participants were asked to complete a survey to elucidate opinions on the state of the COE and of Georgia Tech. At the retreat, Dean Gary May set the context and provided a charge for the planning process, with an opening presentation focusing on application of the principles described in the book *Little Bets: How Breakthrough Ideas Emerge from Small Discoveries* (Sims, 2011). The participants then viewed plenary presentations and listened to panel discussions on the five objectives of the COE’s plan, which mirror those of the Institute’s strategic plan. The participants were then separated into groups and asked to conduct brainstorming sessions to answer questions, as well as develop ideas and recommendations in each of these five areas.

Following the retreat, a subset of the participants was identified to form a steering committee to develop and vet the final plan. Over the course of the next several months, this steering committee subsequently reviewed the outcomes from the retreat; engaged in a situational analysis\(^1\) of the COE; developed vision and mission statements; assembled teams to address each objective in the plan; and eventually completed a draft plan. That draft was then presented to the COE community for feedback and refinement prior to final publication.

\(^1\) For more on the situational analysis, visit [http://www.coe.gatech.edu/content/coe-strategic-plan-2012-2017](http://www.coe.gatech.edu/content/coe-strategic-plan-2012-2017)
“Designing the Future: The Georgia Tech Strategic Vision and Plan” contains five key strategic objectives. As the largest and most influential academic unit at the Institute, it is appropriate for the COE’s strategic plan to remain congruent with the institutional plan, while retaining a unique perspective that reflects the culture and aspirations of the COE. As a result, the following objectives espoused in the COE’s plan mirror those of the Institute’s plan:

1. Be among the most highly respected technology-focused learning institutions in the world.
2. Sustain and enhance excellence in scholarship and research.
3. Ensure that innovation, entrepreneurship, and public service are fundamental characteristics of engineering graduates.
4. Expand the COE’s global footprint and influence to ensure that it is graduating global citizens.
5. Relentlessly pursue institutional effectiveness.

Despite this alignment, a key differentiator for this plan is its time frame. While the Institute suggests a twenty-five-year time horizon, the COE’s plan focuses on the next five to ten years. If we are successful, the COE will realize its aspiration to reach the “medal stand” and continue to be counted among the very best engineering programs in the nation and the world.
**Vision**

Based on its values, current capabilities, and future aspirations, the COE proposes the following vision:

Unmatched in breadth, depth, and diversity of talent, the College of Engineering at the Georgia Institute of Technology is globally recognized as the preferred institution:

- for all students with the aptitude and inclination—regardless of background or means—who seek the best possible technological education to impact the most pressing global issues;

- for all faculty who seek the best possible environment and opportunity for interdisciplinary and impactful research; and

- for solutions to the grand challenges facing the human community today and for innovations to meet the needs of tomorrow.

The College of Engineering will be the entity that provokes the question: “What does Georgia Tech think?”

**Mission**

In order to realize its vision, the COE will undertake the following mission:

Through relentless innovation in pedagogy, research, and institutional practices, the College of Engineering empowers students and researchers to be interdependent learners who are fearless in the face of complex problems and eminent contributors in their fields.

The College of Engineering answers: “What would Georgia Tech do?”
Objective 1:
Be among the most highly respected technology-focused learning institutions in the world.

Goal

Engineering education is of vital importance to people everywhere and is central to enhanced living standards, healthier lives, and more sustainable environments. The COE will develop the next generation of engineers who combine the highest level of technical competence with creativity, innovation, and leadership skills with which they can take on complex and challenging problems. Georgia Tech engineering students must be global collaborators, leading and participating in multidisciplinary and culturally diverse teams. To keep up with the fast pace of technological change, the COE’s graduates will become lifelong learners who recognize the need to refine their skills and to “reinvent themselves” as needed to pursue new areas of research, design, and problem solving. Georgia Tech must be known for educational innovation, educational technology, and engineering education research much in the same way that it is already known for its accomplishments in engineering, scientific, and technological research.

Strategies

1. Online, Open Courses: Much has been said recently of the online and open-campus efforts being developed around the country. Whether this is a fad, or the start of a new paradigm for the twenty-first-century university, is uncertain. The business model is yet to be defined, and the effectiveness of student’s learning experience needs to be fully assessed. However, Georgia Tech cannot afford to sit back and wait to see how this trend pans out. The COE will take a leadership role, encouraging efforts by various units to establish an online presence of courses and learning materials.

   a) Online materials should be developed to enhance the on-campus learning environment, not to replace it. Most of the efforts to develop massive open online courses (MOOCs) have been motivated primarily by a desire to bring education to people who could not otherwise attend the university. While that is certainly laudable motivation, the true Tech experience in engineering requires hands-on activities, social interaction (teaming, cooperative and collaborative learning), and access to world-class facilities.
b) Wherever possible, online resources will be shared between units of the COE. For example, a course module on the First Law of Thermodynamics could easily be shared among Mechanical Engineering (ME), Aerospace Engineering (AE), Chemical and Biomolecular Engineering (ChBE), and Biomedical Engineering (BME).

c) The COE will participate in Institute efforts to maintain a web presence that collects educational resources (such as video modules developed at Tech) for engineering instruction. The site will also highlight major engineering educational research going on at Georgia Tech, for example NSF-funded projects and education/outreach efforts that are part of CAREER awards.

d) Faculty will be recognized and properly rewarded for developing high-quality modules (video or online tutorials). The COE will adopt a system of peer review for learning modules. Accepted modules will be added to the online library, and the faculty will be able to count the modules among their scholarly contributions.

2. Pedagogy and Delivery Modes: While universities rush to provide free online learning materials, the COE must maintain a brand that attracts the best and brightest students to pursue resident instruction.

   a) The COE will encourage foundational courses to adopt new modes of delivery, including greater use of active, problem-based, and collaborative/cooperative learning.

   b) Recently the schools of Mechanical Engineering and Electrical and Computer Engineering (ECE) began faculty workshops for active learning. Such programs are designed to help faculty adopt and perfect the “craft” of active learning and will be encouraged by the COE.

   c) The COE will establish endowed chairs and professorships in educational innovation or technology.

   d) The COE will adopt standards for promotion and tenure that place appropriate emphasis on innovation in education.

   e) Online materials will be seamlessly integrated into new teaching modes through use of the “flipped classroom” and just-in-time education concepts.

   f) Foundational courses in the COE will emphasize student-to-student interactions, as well as student-faculty engagement such that students feel they are part of “learning communities.”

   g) Hands-on learning activities will be stressed and made broadly available. For example, efforts such as the Teaching Enhancement via Small-Scale Affordable Labs (TESSAL) center in ECE will be expanded so that instructors in other units can arrange for and schedule in-class activities for their students.

   h) Facilities will become an increasingly important differentiator between world-class universities and their online counterparts. Georgia Tech will build distributed centers for design (e.g., The Design Commons) to act as focal points for engineering problem solving and innovation.
Objective 1, cont.

i) The COE will renovate engineering classrooms to facilitate new modes of delivery.

3. Multidisciplinary Education: Many of the new frontiers in engineering and science do not fall neatly within a particular major or field. Engineering students must learn that they will need to function on multidisciplinary and diverse teams to solve complex problems. Some problems, such as those that make up the so-called “Grand Challenges,” require collaboration between scientists, mathematicians, computer scientists, economists, and engineers of all types.

   a) Building from the existing activity in ME, the COE will establish a Capstone Expo and encourage more opportunities for multidisciplinary capstone teams.

   b) The COE will support and expand the Vertically Integrated Programs (VIP) that originated in ECE.

4. Curriculum Revision: The NAE, the Carnegie Foundation, ASEE, and a host of other leaders in education have all advocated for greater flexibility in engineering curricula. Giving students more flexibility gives them the ability to pursue opportunities outside of engineering, or to pursue multidisciplinary minors and certificates, as well as internships and study-abroad programs. The schools of BME, ECE, and ME have recently revised their BS curricula, adding free and/or technical electives.

   a) The COE will work with other units and support similar efforts to increase curricular flexibility in other degree programs. The COE could adopt guidelines for “minimal levels of flexibility.”

   b) The COE will help faculty convert traditional laboratory and lecture classes into new modes of delivery through seed grants.

   c) Having the freedom to choose courses outside of a student’s major is not useful unless there is a greater availability of non-major-restricted seats in certain courses. The COE will adopt policies to enable this in a seamless manner.

   d) The COE will establish a task force to complement institutional development of joint, blended, or customized engineering degree programs, such as “COE-X” degrees. These degrees, which might be unaccredited, could attract nontraditional students.

5. Graduate Education: Innovation in engineering education at the undergraduate level undoubtedly will impact graduate engineering education. Due to the importance of research in graduate engineering education, much learning and instruction occurs outside the classroom. However, there are several opportunities to expand graduate engineering education in new directions.

   a) Georgia Tech is home to several professional master’s programs. When possible, new professional master’s programs will capitalize on research and regional strengths. For example, the strengths of the COE, NEETRAC, and GE Energy could be leveraged for a professional master’s degree in electric power.

   b) Many engineering graduate students are interested in teaching—not only at the university level, but also in secondary education. The “Tech to Teaching” program is an excellent way for students to learn the skills needed to become successful teachers. The COE will promote this vehicle.

   c) Several schools have courses, such as the Teaching Practicum in the School of ME, that prepare doctoral students for academic careers. Best practices will be shared between the different schools in the COE, with the aim of placing more of the COE’s top PhD graduates into tenure-track faculty positions.
d) The COE will assist with Institutional efforts to partner with Georgia State University or Emory University to develop a master's or PhD program in engineering education.

**Measures**

- Number of flexible curricula within the COE (i.e., those that have been redesigned to allow for at least six additional hours of curriculum flexibility)
- Number of students pursuing certificates and minors
- Number of students in professional master’s programs
- Number of COE PhD graduates in tenure-track faculty positions at peer institutions
- Student-faculty ratios as a proxy for student-faculty engagement
- Number of high-profile media stories that include references to COE educational innovations
- Number of endowed chairs in engineering education and educational technology
- Number of students in “nontraditional” lab and lecture classes
- Number of courses taught in “nontraditional” delivery modes
- Number of learning modules available online (number, minutes, views, etc.)

“COE will develop the next generation of engineers who combine the highest level of technical competence with creativity, innovation, and leadership skills...”
Objective 2:
Sustain and enhance excellence in scholarship and research.

Goal

Sustained excellence in scholarship and research is an integral aspect of the mission of the COE. This excellence offers opportunities to leverage existing strengths to expand its leadership and reputation as one of the preeminent engineering research institutions in the world. In so doing, the COE will create a diverse community of exceptional scholars dedicated to the creation of solutions to address challenges facing the state, the nation, and society at large.

Strategies

1. In order to become a more visible leader in existing or emerging areas of engineering, greater risk must be taken to identify more “game-changing” faculty hires. A significant fraction of new hires in the next five years will be these types of individuals.

2. The presence of interdisciplinary centers of excellence is an important characteristic of a noteworthy college of engineering. Since such centers are ultimately faculty driven, forums must be created and facilitated to allow faculty members to brainstorm and nurture new ideas for collaborative, multidisciplinary activities that may eventually evolve into centers.

3. In recent years, it has become increasingly harder for junior faculty to initiate their research careers due to increased competition and less availability of federal and extramural funds. Resources permitting, specific programs targeted at nurturing new hires will be developed, and intramural mechanisms for funding—that are specifically for junior faculty—will be created.

4. As the COE grows strategically in interdisciplinary areas, this creates the opportunity to hire faculty with interdepartmental/school and intercollege positions. Search committees will be comprised of faculty from different schools and/or colleges for targeted positions. When feasible, the COE will physically situate closely related faculty within proximity, so they can more easily share common resources.

5. The introduction of a formal professional development leave program would allow faculty the time to reflect on their research
programs and determine future pathways to pursue. This could be accomplished by trimming back portions of existing programs in order to expand into new areas by creating bandwidth and by allowing the possibility of working within industry for short periods of time.

6. Increasing the number of non-tenured research faculty could help supplement the ranks of scholars within the COE. For career development purposes, such individuals should have titles of “research assistant/associate professor” as opposed to “scientist” or “engineer.” A clinical track for research faculty should also be considered by the Institute.

7. The pace of new construction has not been able to keep up with growing demands for faculty laboratory space. This may necessitate a need to consolidate existing space, in addition to conducting expansion planning for future facilities.

8. Core facilities and equipment are becoming more costly to purchase and maintain, but are vital to providing the necessary technical resources to faculty who are vying for increasingly competitive extramural awards. Better means of sharing expensive resources and communicating their existence on campus will help reduce the overall cost of these items. More focus and support in the preparation of major research instrumentation proposals will also help in the acquisition of sophisticated and expensive equipment.

9. The difference between “engineering” and “technology” will be better communicated to the external community. By better branding the impact of what the COE does—as opposed to just the activities themselves—the COE may be able to more effectively communicate this message to students and the broader community. This will help convey to society the benefits engineering can provide both now and in the future.

Measures

- Research funding (total amount of funding, number of grant awards, indirect costs)
- Laboratory space (ft²/PI, ft²/number of researchers, core facility numbers, percentage of research space)
- Publications (quantity of papers, impact factors of journals, h-index)
- Promotion and tenure (tenure rate, average time to tenure, promotion rate, average time for promotion)
- Endowed chairs and professorships (total number per school, percentage of faculty with endowed positions)
- Prestigious memberships (NAE, professional society fellows)
- Number of interdisciplinary centers of research excellence

“...the COE will create a diverse community of scholars dedicated to the creation of solutions to address challenges facing the state, the nation, and society at large.”
Objective 3:

Ensure that innovation, entrepreneurship, and public service are fundamental characteristics of our graduates.

Goal

Innovation is a transformational process that moves ideas from their inception to their use for the betterment of society—whether that is in the marketplace or in public service. As Georgia Tech’s institutional mission incorporates “progress and service,” innovation aligns perfectly with the COE culture. While many universities are successful in generating ideas, many are less successful in using these ideas to truly innovate. The COE must be recognized as a bastion of innovation, entrepreneurship, and public service if it is to achieve the global reputation to which it aspires. To do so, the COE must:

- incorporate aspects of innovation, entrepreneurship, and public service into the COE’s core academic mission (including courses, both undergraduate and graduate);
- emphasize research that leads to commercialization;
- increase the number of COE stakeholders engaged in public service activities (government service, as well as volunteer activities); and
- optimize the visibility of these activities, both internally and externally.

Strategies

1. Establish core intellectual activities for innovation, entrepreneurship, and public service in grand challenge application areas.

2. Collaborate with the Executive Vice President for Research to establish a task force, with patent attorneys, industry personnel, and licensing personnel, from peer universities to identify best practices and suggestions for the COE to improve current processes regarding intellectual property.

BS Degrees to URMs*

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY05</td>
<td>190</td>
</tr>
<tr>
<td>FY11</td>
<td>263</td>
</tr>
</tbody>
</table>

* underrepresented minorities
3. Form a COE committee to vet invention disclosures for Office of Technology Licensing.

4. Ensure that incentives for innovation, entrepreneurship, and public service are properly aligned with the promotion and tenure process.

5. Review and comment on current policies, particularly regarding conflict of interest, to ensure that they encourage faculty involvement.

6. Develop and support undergraduate/graduate courses and other educational programs on entrepreneurship.

7. Establish lecture series and focused workshops for faculty/students on innovation, entrepreneurship, and public service.

8. Leverage and strengthen partnerships with other Georgia Tech units, such as the Sam Nunn School of International Affairs, to provide education, training and opportunities for the COE students in public service.

9. Support student design competitions that promote entrepreneurship, innovation, and public service.

10. Increase the number of internal awards focused on innovation, entrepreneurship, and public service.

11. Identify opportunities for internships that focus on public service or entrepreneurship, perhaps working with the Alumni Association or the Office of Federal Relations.

12. Provide space and equipment for students to pursue non-academic design projects for public service, competitions, entrepreneurial ideas, or just to satisfy intellectual curiosity.

13. Establish venues to connect faculty/students with venture capital firms and angel investors.

14. Identify funds for small grants for student-led startups.

15. Provide support to student groups, such as Engineers without Borders, that engage in public service. Work with these groups to increase visibility.

16. Develop a website that provides an overview and links to various public service-related centers and activities within the COE.

**Measures**

- Number of patents, licensed technology, licensing income to the COE and/or startups
- Number of students performing public service
- Number of faculty, staff, and students/alumni who currently serve or have served in a government administrative or policy position, or on a government advisory board at a program level or above
- Number of student organizations involved
- Funding generated to support these activities
Objective 4:
Expand our global footprint and influence to ensure that we are graduating global citizens.

Goal

The vision of being an internationally recognized academic institution requires that the COE be globally engaged and gain the visibility and reputation of being a leader in technological innovation, education, and entrepreneurship. It requires that faculty provide leadership in meeting the science and technology needs across the world, and that the COE graduate students who are not only educated with disciplinary knowledge but are also prepared to be global citizens and leaders through their participation in study-abroad and industrial/research internship programs.

Strategies

1. In order to increase the visibility and reputation of Georgia Tech across the world, international political, business, and technology leaders (e.g., Nobel laureates) should be invited to campus to speak, or for short-and long-term stays (sabbaticals). This will provide opportunities to showcase the strengths, capabilities and accomplishments of the Georgia Tech community, and will enable research and academic interactions with faculty and students.

2. Maintain a global footprint through partnerships in establishing science and technology centers and/or innovation education portals around the world, as well as sponsored education programs for international institutions.

3. When considering international growth in engineering programs, evaluate the experiences with Georgia Tech Lorraine and joint and dual-degree programs, such as the Peking University joint degree program and the Georgia Tech-Shanghai Initiative, before creating branch campuses or joint degree programs, and make better use of technology for creating a virtual rather than physical presence at international sites where possible.

4. Enhance education and research training experience for the COE students by offering them participation in study-abroad and research/industrial internship programs at international institutions. This requires that the COE increase awareness of international programs, create models, and generate resources and scholarships that will enable the participation of all students. It also requires that
the COE leverage the Leadership Education And Development (LEAD) program within the Division of Student Affairs, to provide training for engineering students to become global leaders.

5. Enable access to information about international programs and opportunities for students (study-abroad programs, internship opportunities, financial resources, etc.) and faculty (research funding opportunities, collaborative agreements, memoranda of understanding, etc.) through the COE website, while seeking out and linking with what exists within OIE and other offices at Georgia Tech.

6. Encourage a bottom-up, faculty-driven, proactive approach for developing new, creative, and sustainable leadership and global engagement models, as well as collaboration agreements and academic alliances/partnerships for educational and research programs with international institutions in strategic technical fields, and at strategic sites/locations around the world. Leverage federal and institutional awards and seed funds to promote such developments.

7. Ensure that the COE is an integral component of Georgia Tech’s anticipated Global Village, the hub of international partners in innovation, education, and entrepreneurship. This will also enable increased funding for research and educational programs.

Measures

- Percentage of student participants in the International Plan, study-abroad programs, and internships
- Recruitment of COE students by international corporations, with and without prior international experience
- Number of international visitors coming to Georgia Tech for short- and long-term visits
- Faculty research funding from international organizations
- Faculty leadership on international panels and conference committees and boards
- External funding from domestic sources for international research and education programs
- Number of international corporations and technological organizations in Georgia Tech Global Village

### BS Degrees to Women in Engineering

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY05</td>
<td>330</td>
</tr>
<tr>
<td>FY11</td>
<td>387</td>
</tr>
</tbody>
</table>

- 20 degrees awarded
Objective 5:
Relentlessly pursue institutional effectiveness.

Goal

If the COE is to succeed at realizing its vision and carrying out its mission, it is clear that it must maximize the utilization and effectiveness of its human and financial resources, as well as its facilities, in support of its key College strategy areas of education, research, innovation, and globalization.

Strategies

The COE will continuously review, develop and align its culture, people, structure, work processes and technologies with its goals, objectives and strategies. The COE will realize this by continuously monitoring key success indicators and publishing these results for various constituent communities, and by continuously reviewing and improving the alignment of these support functions, business processes, and resource allocation strategies across all key College strategy areas. The COE will do so by:

1. designing, developing, and deploying short summaries of progress and targets for each strategy of the other goal areas;
2. hosting regular meetings of key area implementers, such as education, research, innovation, globalization, to discuss current progress, potential measures, definition of progress, and pain points;
3. hosting regular meetings of various support teams, such as accounting, human resources, information systems, facilities, development, communications, and faculty administration, to discuss current state, potential measures, definition of progress, and pain points;

Faculty Size

<table>
<thead>
<tr>
<th>Total in FY05</th>
<th>Total in FY11</th>
</tr>
</thead>
<tbody>
<tr>
<td>413</td>
<td>433</td>
</tr>
</tbody>
</table>
4. developing a rolling forecast of potential need, such as provision of service, numbers of faculty and staff, facilities and other infrastructure, in each of the key College strategy areas;

5. establishing investment (resource allocation) priorities for each of the key College strategy areas.

**Measures**

- Year-over-year progress as documented in published status reports
- Number of key success indicators tracked for each goal area
- Number of outreach meetings with implementers and support teams
- Number of staff training hours logged per year
- Staff and faculty turnover ratios
- Ratios of staff per student and staff per faculty
- Ratio of administrative to (instruction + research + service) expenditures
- Various space utilization measures
- Dollar expenditures in support of each key College strategy area

“...we must maximize the utilization and effectiveness of our human, facilities, and financial resources in support of our key College strategy areas...”
President John F. Kennedy once described the core of the educational enterprise in these words:

“Let us think of education as the means of developing our greatest abilities, because in each of us there is a private hope and dream which, fulfilled, can be translated into benefit for everyone and greater strength for our nation.”

The COE is closer than it has ever been to realizing its vision and making Kennedy’s words a reality. If successful in executing this strategic plan, the COE will be well on its way to empowering the type of engineers and leaders needed for the times and creating a true community of scholars—akin to a modern day Alexandria or Timbuktu—dedicated to creating the technical solutions required for a prosperous future.
The College of Engineering would like to thank the members of the Strategic Planning Steering Committee.

**Acknowledgements**

GARY MAY  
College of Engineering,  
committee chair

OLIVIA BURNSED  
Biomedical Engineering,  
undergraduate student

STEVE CHADDICK  
College of Engineering  
External Advisory Board

MOLLY CROFT  
College of Engineering, ex-officio

JUANA CUNNINGHAM  
Organization Development, ex-officio

REGINALD DESROCHES  
Civil and Environmental Engineering

AL FERRI  
Mechanical Engineering

CHRIS JONES  
Chemical and Biomolecular Engineering

PINAR KESKINOCAK  
Industrial and Systems Engineering

KAY KINARD  
College of Engineering, ex-officio

JOHN LEONARD  
College of Engineering

TODD McDEVITT  
Biomedical Engineering

MICHAEL MILLER  
Aerospace Engineering, graduate student

AMY PRITCHETT  
Aerospace Engineering

NARESH THADHANI  
Materials Science and Engineering

DOUG WILLIAMS  
Electrical and Computer Engineering
APPENDIX: Benchmarking

A graphical comparison of the Georgia Tech COE to several peer institutions across several quantitative dimensions follows.

Total Degrees Awarded

Research Expenditures

California Institute of Technology (CalTech)
Carnegie Mellon University (CMU)
Cornell University (Cornell)
Georgia Institute of Technology (GT)
Massachusetts Institute of Technology (MIT)
North Carolina State University (NCSU)
Northwestern University (NWU)
<table>
<thead>
<tr>
<th>College Name</th>
<th>Faculty Size</th>
<th>Undergraduate Student/Faculty Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purdue University (Purdue)</td>
<td>433</td>
<td>24.3</td>
</tr>
<tr>
<td>Stanford University (Stanford)</td>
<td>385</td>
<td>23.5</td>
</tr>
<tr>
<td>Texas A&amp;M University (TAMU)</td>
<td>371</td>
<td>23.2</td>
</tr>
<tr>
<td>The Johns Hopkins University (Hopkins)</td>
<td>362</td>
<td>21.5</td>
</tr>
<tr>
<td>The Pennsylvania State University (PSU)</td>
<td>353</td>
<td>21.0</td>
</tr>
<tr>
<td>The University of Texas at Austin (Texas)</td>
<td>331</td>
<td>20.8</td>
</tr>
<tr>
<td>University of California-Berkeley (CAL)</td>
<td>328</td>
<td>20.8</td>
</tr>
<tr>
<td>University of California-Los Angeles (UCLA)</td>
<td>315</td>
<td>19.2</td>
</tr>
<tr>
<td>University of Florida (Florida)</td>
<td>325</td>
<td>19.9</td>
</tr>
<tr>
<td>University of Illinois at Urbana-Champaign (Illinois)</td>
<td>217</td>
<td>13.3</td>
</tr>
<tr>
<td>University of Michigan (Michigan)</td>
<td>211</td>
<td>12.3</td>
</tr>
<tr>
<td>University of Minnesota - Twin Cities (Minnesota)</td>
<td>188</td>
<td>11.6</td>
</tr>
<tr>
<td>University of Washington (UW)</td>
<td>152</td>
<td>8.2</td>
</tr>
<tr>
<td>Virginia Polytechnic Institute and State University (VT)</td>
<td>154</td>
<td>10.9</td>
</tr>
</tbody>
</table>

*Callouts show figures for FY2011*
*Callouts show figures for FY2011*