

Graduate Education Strategic Plan

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Graduate Education Strategic Plan

Vision

Research universities define the frontiers of a knowledge-based society. Graduate education is the hallmark of a research university. In defining the technological university of the 21st century, the Georgia Institute of Technology will demonstrate the value of advanced degrees in the global knowledge economy. Our master's students will move industry, government, and social enterprise forward through their depth of knowledge and professional skills. Our doctoral students will become world leaders in research, innovation, and public service. The campus will come alive with the creative energy of the best new minds exploring the frontiers of science and technology, and improving the environment through progress and service.

Mission

The mission of graduate education at Georgia Tech is to provide the content, stimulus, and environment for graduate students to become leaders in the global knowledge economy.

Guiding Principles

The graduate education community has adopted the following guiding principles for interaction.

1. **Emphasize mutual respect and inclusion among all participants.** Disrespect for students, faculty, or staff undermines the experience of everyone.
2. **Foster student ownership of the educational experience.** Without active engagement in their own graduate education, students will not become the global leaders Georgia Tech wants to produce.
3. **Provide mentoring and development opportunities.** Everyone on campus must be devoted to developing the capacities and knowledge that graduate students should possess by the time they graduate.
4. **Expect personal interaction and communication.** Graduate education is much more than course content. A full educational experience demands personal interaction and robust communication between students, and among students, faculty, and staff.
5. **Support work/life balance.** The graduate community at Georgia Tech must provide students with a supportive environment, leaving room for them to be healthy, mentally and physically, with strong social relationships and family lives.

The following core values also guide the graduate education curriculum:

1. **Improve the human condition.** Engagement with global challenges is at the heart of Georgia Tech graduate education.
2. **Be relevant.** Graduate education at Georgia Tech must focus on identifying, evaluating, analyzing, and resolving current and future global problems.
3. **Foster an interdisciplinary mindset.** Problems seldom stay within the boundaries of disciplines. Our students must be accustomed to addressing problems that flow across disciplinary boundaries and working with teams that combine concepts, expertise, and methods to resolve them.
4. **Teach teamwork.** The graduate educational experience must build a sophisticated self-awareness about teamwork skills and understanding.
5. **Empower students to be active producers of knowledge.** Graduate students are not just learning for its own sake; they are learning to produce knowledge to be passed on to others. The curriculum must engage them in actively producing new and generalizable insights.
6. **Encourage lifelong learning.** Today's knowledge will be replaced as our graduate students advance in their careers, so continuing education is key to their success.
7. **Educate for flexibility.** Our graduate students will witness many changes over their professional lives. The graduate education community is committed to preparing them to anticipate, embrace, and lead during these periods of change.

Status of Graduate Education at Georgia Tech

Every fall, more than 2,000 new graduate students pour onto the Georgia Tech campus and join its programs online. They come from every part of the United States — and from universities around the world. Georgia Tech's graduate students form a diverse and international community, centered in the heart of Atlanta. Thirty-five percent of Georgia Tech's student population is graduate students (about 8500 in total). Sixty percent of them are earning master's degrees, either in research-oriented programs like Biomedical Engineering, International Affairs, Physics, or Aerospace Engineering, and or in professional programs such as Analytics, Applied Systems Engineering, Architecture, City and Regional Planning, Human-Computer Interaction, or the Executive Masters in Business Administration. When these master's students leave with a Georgia Tech degree, as 80 percent do within two years, they earn median salaries of nearly \$80,000.

The other 40 percent of Georgia Tech's graduate students are earning doctoral degrees in one of more than 30 programs. Every college houses at least one doctoral program. About 80 percent of the doctoral students are supported on graduate research or teaching assistantships, working in one of the hundreds of research groups and laboratories around campus. Others arrive with fellowships from sources such as the Fulbright Program, Royal Thai Fellowships, Becas Chile, or the U.S. National Science Foundation's Graduate Research Fellowship Program, which supports nearly 150 Georgia Tech students. The Institute's doctoral students work on projects supported by the Department of Defense, Department of Energy, National Institutes of Health, and many other federal and state agencies, or by major firms in

the information, entertainment, finance, manufacturing, or medical device industries. More than 40 percent go on to work for academic institutions while the rest go primarily into industry.

Georgia Tech's graduate students are making significant contributions to the economy of the state of Georgia and beyond. For example, of the master's and Ph.D. students who have employment lined up at graduation, more stay in Georgia than lived here before they started their degrees. And over the past five years, Tech's graduate students have been listed as inventors on more than 140 U.S. patents.

Without graduate students, life would change for every faculty member. Professors would no longer have the opportunity to teach in their specialties and to mentor and collaborate with the next generation of scholars in their fields, sharing both teaching and research. Georgia Tech's partners in industry and government would not come here to find future employees. The Institute's research connections around the world would be weakened, since former students are often present collaborators. In short, Tech would no longer be positioned to define the technological university of the 21st century. The intellectual vitality of the campus depends critically on attracting the best and brightest graduate students, sharing knowledge and learning with them, and sending them into the world to be leaders.

Strategic Goals

The goals and strategies of graduate education are derived from Georgia Tech's strategic plan and vision, but they have been revised to focus on graduate students and programs.

Goal 1: Deliver an educational experience that is among the best in the world.

For Georgia Tech to define the technological university of the 21st century, we must be leaders in graduate education. We compete for the best students with other institutions, and we must have something special to offer those who come here. Based on our guiding principles, we want to provide a campus that is welcoming and that offers fertile ground for students to grow through their graduate education experiences.

Strategy 1: Mentor graduate students effectively.

The faculty mentor is the central figure in graduate education but the entire graduate community needs to be invested in providing effective mentoring for each student. Master's students must receive direct attention from Georgia Tech's world-class faculty, with enough interaction inside and outside their coursework so that they catch the essence of scholarship and its importance in their fields. Doctoral students need productive, collegial relationships with their advisors. Over time, faculty mentors should ensure that doctoral students have the opportunities to pursue professional development and experience the scholarly interaction they need to become independent, creative scholars.

Strategy 2: Integrate knowledge with use.

Georgia Tech graduate program alumni should be able to find creative solutions that integrate scientific and technological knowledge with a sophisticated understanding of how people use information and technology in their jobs, families, and communities. Georgia Tech graduates should be good listeners who can grasp practical problems in their own terms.

Strategy 3: Develop professional skills.

Georgia Tech graduate program alumni should possess excellent communications skills in written, verbal, electronic, and nonverbal forms. They should be prepared to teach, mentor, and train, whether that is in a classroom, in the workplace, or in their home communities. Every graduate student should have the opportunity to build his or her skills in writing grant applications and have the chance to learn the skills that entrepreneurs and community leaders need. Graduate students at Georgia Tech should understand the ethical context of their present and future work and be able to thoughtfully carry out their responsibilities to others in the workplace — and to society as a whole. The Institute should offer well-organized professional development tracks and invest in facilities and spaces where graduate students can gather and access information and services.

Actions:

- Promote the importance of successful and healthy faculty-student advising/mentoring relationships across the Institute.
- Establish programs and resources that will help strengthen and support faculty mentoring skills.
- Integrate the guiding principle of student ownership of their educational experience into all relevant aspects of the graduate education experience.
- Create and expand student programming that will build the critical skills necessary for career success.
- Design new programs that encourage graduate students to develop solutions for evolving real-world challenges.

Examples of Specific Initiatives:

- Institute student-developed/faculty advisor-guided research and scholarship plans (individual development plans).
- Include mentoring as a component of the annual faculty review process.
- Create a database of mentoring resources and social networks for mentors.
- Create “how to mentor seminars” in person and via massive open online courses.
- Design and expand student skill-building programs in the areas of communication, conflict resolution, cross-cultural awareness, mentoring, problem solving, project management, proposal development, and writing, teaching, and entrepreneurship.
- Create graduate-to-undergraduate student mentoring programs to develop effective mentoring skills among graduate students.

- Teach students about innovation in instructional methods, course design, and curricula.
- Expand the Tech to Teaching program.
- Use new educational delivery methods and technology to bridge the knowledge gap for new graduate students.
- Create graduate student versions of the Inventure Prize and interdisciplinary capstones.

Goal 2: Sustain and enhance the Institute's excellence in scholarship and research with innovative programs and exemplary students.

For Georgia Tech to push the frontiers of knowledge forward, bright, creative students must be engaged in the effort. Graduate education is the gateway that allows the campus to be an environment of exploration.

Strategy 1: Focus on forefront topics.

Georgia Tech's research centers and Interdisciplinary Research Institutes are leading the world in hundreds of specific research areas. These research groups provide an environment for graduate students to participate actively in creative problem solving. They stretch across graduate programs and give students experience with the integrative skills they will need in their careers. The Institute's research groups need to actively recruit and develop graduate student talent, and graduate programs need to reflect what these research groups are learning in their curricula.

Strategy 2: Drive learning with global challenges.

Making an impact in the world is the goal of Georgia Tech's integrative, forefront scholarship. The Institute's graduate students should be steeped in this ambition and carry it with them when they leave. Graduate education at Georgia Tech should be organized around a continuous flow of cross-program, grand-challenge team efforts that put graduate students at the center of real-world problem solving.

Strategy 3: Create a campus center for graduate student skill development, including publication and grant writing.

Master's students need a central clearinghouse to help them locate the campus resources they need to launch their professional careers. Doctoral students need to have tools to publish high quality work and to raise funds for their research. In field-appropriate ways, our doctoral programs need to launch students into these waters before they graduate. A central, physical location that serves as a gateway and home for graduate student services is an important element in achieving these goals.

Actions:

- Strengthen institutional and faculty support for new interdisciplinary collaborations involving graduate students.

- Increase the quality and quantity of student research output (e.g., patents, papers, presentations, and publications).
- Expand opportunities available for the showcasing of graduate student research and publications.
- Introduce the use of new and innovative technology into all aspects of graduate education.
- Identify new opportunities for cross-institutional partnerships with local, national, and international universities.
- Develop new cross-institutional programs to address global challenges.
- Identify outreach and community service opportunities for graduate students that directly tie into the curriculum of multiple disciplines, including with school children.

Examples of Specific Initiatives:

- Establish a partnership between Graduate Studies and the Georgia Tech Office of Research to sponsor graduate workshops on idea development and proposal writing for public and private funding programs.
- Establish an interdisciplinary fellowship program that reaches out to all areas of campus.
- Create an environment where faculty members are supported, recognized, and rewarded for developing new interdisciplinary collaborations and programs.

Goal 3: Maximize the accessibility and affordability of graduate education at Georgia Tech.

In graduate education, Georgia Tech is creating the future leadership teams for global industry, government, and academe. It is crucially important that our graduates are as diverse as the environments with which they will engage. Our graduate programs should be open to talent regardless of economic background or other barriers that can interfere with access to education.

Strategy 1: Recruit and support a diverse graduate student population.

Georgia Tech's graduate programs should all be inclusive, providing a welcoming environment for both women and men, respecting diverse cultural and economic backgrounds. The Georgia Tech experience should help all students develop the habit of dismantling their prejudices and meeting others as equals in team efforts and work environments. A growing base of applications from the best and brightest students requires active recruitment efforts, which reach out to a wide range of U.S. college students and to those from Latin America, Africa, and other parts of the world that are underrepresented in our graduate student population.

Strategy 2: Provide enabling levels of financial support.

Graduate research and teaching assistants count on their stipends to be able to cover the cost of living throughout their degree program. Stipend amounts need to support this goal and allow students to

avoid undue financial burdens after graduating. Long-term funding commitments and subsidized health insurance are also critical.

Strategy 3: Increase full fellowship support for doctoral students.

Doctoral students generally need five years of stipend and tuition support to complete their degrees. To consolidate completion rates and to successfully recruit the best students, Georgia Tech needs to make a concerted effort to increase the number of full fellowships, that is, those that provide tuition, fees, and competitive stipends for a significant portion of a doctoral student's educational career.

Actions:

- Examine and improve the graduate student funding model to enhance recruitment and support.
- Identify strategies for coordinating and enhancing diversity recruitment efforts across all Georgia Tech disciplines.
- Evaluate the competitiveness of Georgia Tech's graduate student funding resources.

Examples of Specific Initiatives:

- Establish a partnership between Graduate Education and the Office of the Vice President for Institute Diversity to develop recruitment strategies and tools for academic units.
- Benchmark graduate student funding resources and models of peer universities against what is offered at Georgia Tech.
- Examine the feasibility of using out-of-state tuition waivers for recruiting top graduate students who do not have a graduate research or teaching assistantship.
- Identify sustainable funding sources that can be strategically used to recruit and support the best graduate students during and beyond their first year of study.

Goal 4: Ensure that innovation, entrepreneurship, and public service are fundamental characteristics of our graduates.

Georgia Tech graduates, both master's and doctoral, should have the ability to think and act strategically when it comes to challenges that surround their fields and be able to identify problems they can contribute to solving. They should be able to assemble, and actively participate in, the interdisciplinary teams that are needed to address the social, environmental, ethical, political, and technical aspects of global challenges.

Strategy 1: Build professionally oriented master's programs, on campus and online.

Master's programs help the campus maintain its focus on relevance and connection to use. A professionally oriented master's program is designed to train students for a specific career pathway in industry, government, or nonprofits. The program maintains a close relationship with the potential employers of its graduates and focuses the curriculum on the knowledge, skills, and experience students

need to be effective in the workplace. These programs are windows into the practical side of the global challenges the Institute wants students to address. Georgia Tech needs to develop and support such programs.

Strategy 2: Expand awareness and preparation for broader careers.

Historically, doctoral students were primarily trained for academic careers. However, more than half of Georgia Tech's doctoral students do not enter jobs in universities. On the one hand, the graduate education community must ensure that doctoral students are well informed and well supported in their search for academic positions. On the other, this community needs to be sure that students also understand the pros and cons of careers in industry, academe, government, and nonprofits. Students need to be prepared for the specific challenges of finding and accepting positions in a variety of institutions.

Strategy 3: Build Georgia Tech loyalty among graduate program alumni by building connections to current students.

Connections to the graduate program alumni base start with creating a sense of identity and loyalty while graduate students are on campus. Current graduate students need career advice and job connections from Georgia Tech alumni in Atlanta, the United States, and around the world. Connections that begin with graduate students can expand into research and public service opportunities for the Institute.

Actions:

- Increase the number of flexible mid-career or post-professional degree programs that target students who will remain in the workforce during degree completion. Many of these will be offered online, in whole or in part.
- Expand student exposure to diverse career options and professional development opportunities for careers in both academia and industry throughout their time at Georgia Tech.
- Expand centralized graduate student career development programming and counseling services to supplement specialized offerings provided by colleges and schools.
- Encourage alumni engagement with students through on-campus and virtual seminars, activities, and events.

Examples of Specific Initiatives:

- [Develop new interdisciplinary career education programs similar to TI:GER, Tech to Teaching, and the Graduate Certificate in Public Policy.](#)
- [Develop resources to connect all graduate students to training opportunities already available on campus.](#)
- [Facilitate graduate student opportunities for community service outreach.](#)

- Use technology and social media to connect domestic and international alumni with current students.

Goal 5: Expand our global footprint and influence to ensure that we are graduating good global citizens.

Graduate education at Georgia Tech is already expanding our global footprint, through joint programs and through the large number of international students enrolled in graduate programs. The Institute needs to attract students from a wider variety of countries beyond the United States and do more to prepare all students — domestic and international — for global careers. Graduates need to leave campus with awareness of the diversity of business and policy environments in different countries; with an appreciation and respect for profound differences among cultures; and with appropriate levels of humility in the face of growing economic capability across the globe.

Strategy 1: Use the internationality of campus as an asset for students.

All graduate students at Georgia Tech have the opportunity to meet and learn from students from countries other than their own. The graduate education community needs to structure opportunities so that this cross-cultural learning happens in meaningful ways. We need to increase training in cross-cultural sensitivity and encourage teamwork and social interaction across national backgrounds. Student from the United States and beyond should leave Georgia Tech with friends around the world.

Strategy 2: Provide opportunities for international experiences off campus.

U.S. graduate students are much less likely than those in other parts of the world to spend time on professional activities outside the United States. Georgia Tech should be a leader in providing educational and research experiences for U.S. students in other countries. Faculty should take the lead in establishing international collaborations that provide opportunities for student exchanges for doctoral and research master's students and in building international elements into professional master's degree programs. Every U.S. graduate student at Georgia Tech should have some professionally related international experience, and doctoral students should spend a month or more overseas in the course of their degrees.

Strategy 3: Include globally distributed work environments in the student experience.

Increasingly, Georgia Tech graduate students move into workplaces that involve distributed collaboration across national boundaries. These work environments require students to possess a different set of skills than they need when working with face-to-face teams. The global connections of Georgia Tech faculty provide opportunities for students to experiment with distributed teams and learn the skills they need to thrive and succeed in them. Every student's graduate experience should include work in an internationally distributed team.

Actions:

- Diversify the countries of origin represented by our graduate students.
- Encourage greater interactions between international students and faculty, and international and domestic students.
- Capitalize on established international relationships to create opportunities for student scholarship and research abroad.

Examples of Specific Initiatives:

- Provide training in cross-cultural sensitivity.
- Investigate the potential for National Science Foundation and other agency exchanges of graduate students between the United States and other countries.
- Establish fellowships that send U.S. graduate students to international laboratories (where a collaborative relationship already exists) for research and/or study.
- Provide opportunities for students to gain skills and experience with participating in and leading distributed teams.
- Employ advanced graduate students as teaching assistants or instructors in study abroad programs.
- Provide graduate student funding to support international conference attendance and presentation.
- Develop a single repository for international student and research funding opportunities.

Goal 6: Relentlessly pursue institutional effectiveness.

Quality of life for faculty and graduate students alike depends on simple, effective administration of graduate programs. Whether the matter at hand is admissions, registration, fellowship administration, thesis/dissertation support, or graduation, processes should be electronically accessible, easy to understand, and easy to use. Well-analyzed administrative and survey data should support continual improvement in graduate student achievement and success.

Strategy 1: Establish good data systems and identify meaningful indicators.

Administrative data drawn from Georgia Tech's systems should be analyzed regularly for indicators of the effectiveness of the recruitment and admissions processes; programs that are particularly successful in supporting student achievement; disparities in success rates; and other indicators of the quality of students and programs. Opportunities to benchmark Georgia Tech's effectiveness in graduate education, such as in the context of the Association of American Universities Data Exchange, should be actively pursued.

Strategy 2: Harmonize enrollment and employment policies.

Graduate students and their supervisors should have access to a clear set of consolidated rules regarding graduate student employment and its relationship to enrollment. Administrative systems should provide all campus users with up-to-date information on both enrollment and employment. Those who hire graduate students should actively enforce the regulations that govern student employment and reflect Georgia Tech's responsibilities to its federal and other funding sponsors.

Strategy 3: Make it easy for students to hold fellowships.

When students hold externally funded fellowships, they bring credit to themselves and expand the resources the campus has available to support graduate education. Fellowship holders should be celebrated, and the administrative aspects of their fellowships should be simple and supportive.

Actions:

- Expand the portfolio of services provided by Graduate Studies to include greater support of current students and resources to assist schools with recruitment efforts.
- Develop a strategic communications plan to present graduate education priorities and ensure consistent and effective information dissemination.
- Partner with campus units to evaluate and improve administrative processes and systems for graduate students and programs.
- Assess the current state of graduate student quality of life.

Examples of Specific Initiatives:

- Develop the Office of Graduate Studies and its website as a location for centralized information about campus resources and services.
- Create graduate education handbooks to support faculty, staff, and students.
- Study the mental health and well-being of graduate students
- Increase the efficiency of the application and matriculation processes.
- Improve communications with students throughout the application and matriculation processes.
- Develop a formal framework and structure for graduate-student-focused conflict management and resolution.
- Evaluate the feasibility of a holistic student information system covering all aspects of the student lifecycle from application through alumni engagement.
- Assess the quality and availability of graduate student academic and social resources and facilities.
- Evaluate the feasibility of dedicated graduate working areas on campus.