



Georgia Institute of Technology

INSTITUTIONAL MISSION AND STUDENT BODY PROFILE

The Georgia Institute of Technology (Georgia Tech) is a science and technology-focused learning institute renowned for its deeply-held commitment to improving the human condition. The Georgia Tech community observes the motto of "Progress and Service" through effectiveness and innovation in teaching and learning, research advances, and entrepreneurship in all sectors of society.

A member of the Association of American Universities (AAU) and one of the top research universities in the United States, Georgia Tech influences major technological, social, and policy decisions. The Institute was ranked in 2014 as #7 among public universities by *U.S. News & World Report*, and its undergraduate College of Engineering was ranked as #4. Tech's Industrial Engineering program has been ranked #1 in the country for over two decades. The Institute is also consistently rated among the top universities in the nation for graduation of underrepresented minorities in engineering, computer science, and mathematics.¹ The Academic Ranking of World Universities (ARWU) has named Georgia Tech as the sixth-ranked engineering university in the world.²

Georgia Tech is one of the South's largest industrial and engineering research agencies. The Institute plays a leading role in the Georgia Research Alliance, a centerpiece of the state's economic development strategy. Research is conducted for industry and government by the Georgia Tech Research Institute, various academic schools and departments, and more than 100 interdisciplinary research units.

A highly selective public institution, Georgia Tech saw an average SAT score of 1442 (two part), 2127 (three part), for its fall 2014 freshman class. The undergraduate enrollment in fall 2014 was comprised of 14,682 students, 81% of whom were enrolled in STEM majors³ and 62% consisted of Georgia residents. In addition to its undergraduate population, the Institute had a fall 2014 enrollment of 8,427 graduate students. Georgia Tech's largest school is engineering, which had a fall 2014 undergraduate enrollment of 9,253 (63% of its undergraduate student population). Between 2010 and 2014, Georgia Tech experienced an annual increase in undergraduate enrollment with a 7% increase over the five-year period. (Appendix A).

Georgia Tech values the diversity of its student population. In 2014, Tech experienced a historic high in female enrollment of 4,967 students. Current enrollment of women is 16% higher than in 2010, when female enrollment stood at 4,275. The proportion of women has risen from 31% of the student body in 2010 to 34% in 2014. Our summer/fall 2014 entering class included 550 underrepresented minorities (URM's), a 35% increase over the number of URM's entering the Institute in 2010. Beginning with the summer/fall 2015 cohort, Georgia Tech is offering automatic acceptance and four-year scholarships for all valedictorians and salutatorians from Atlanta Public Schools. Dialogue and engaged learning across a diverse student body, which includes a sizeable number of international students, represents an opportunity for the Institute to further its goal of equipping students to productively work, live, and lead in a complex, multicultural world.

Georgia Tech is a major producer of STEM degrees in the United States. Of the 15,598 undergraduate degrees awarded during the last five years, 77% of the degrees were in STEM fields. The proportion of undergraduate STEM degrees has steadily increased during the past five years from 73% of degrees in 2010-11 to 79% of degrees in 2014-15 (Appendix B).

Georgia Tech students are highly recruited by a wide variety of major corporations, small businesses, non-profit organizations, and government. In May 2015, 85.4% of graduating seniors had one or more employment offers by commencement, and 73.7% had accepted offers. In addition, approximately 18% of graduating seniors had been accepted to graduate school.

In fall 2014, Georgia Tech achieved a first-to-second-year retention rate of 96% for the 2013 cohort and a six-year graduation rate of 82% for the 2008 cohort. The five-year graduation rate for the 2009 cohort rose to a historic high of 78%. These figures represent steady improvements since 1993, when we began tracking retention and graduation rates. (Appendix C). For the 2008-09 transfer cohort, 81% of students graduated within in four years, and 85% graduated within five years. Our high retention and graduation rates, positive enrollment trends, number of degrees conferred, and high job acceptance rates underscore Georgia Tech's ability to help address the workforce needs of the future.

The typical Georgia Tech undergraduate is of traditional age (≤ 24), enters as a freshman, lives on campus, attends full-time, and is seeking a first undergraduate degree. Although Georgia Tech is a highly selective institution and most students enter the Institute well prepared academically, we have populations of students who may be at a higher risk not to complete their degrees. These populations include students who experience academic performance issues, as well as populations traditionally considered underserved in postsecondary education. In fall 2014, 746 (5%) of our 14,682 undergraduates were in less than good academic standing with 389 students on academic probation and 357 on academic warning at the beginning of the semester.⁴ Our fall 2014 degree-seeking population also included underrepresented minorities (14%), U.S. military learners (less than 1%), students with disabilities (3%), first

¹ <http://www.news.gatech.edu/2014/09/09/georgia-tech-rankings-remain-strong>

² <http://www.news.gatech.edu/2014/08/19/georgia-tech-ranks-sixth-globally-engineering>

³ STEM majors include students in the Colleges of Engineering, Sciences, and Computing

⁴ See <http://www.catalog.gatech.edu/rules/6c.php> for academic standing rules at Georgia Tech.

generation students (5%), and Pell recipients⁵ (12%).

Our completion goals and strategies include interventions for populations at greater risk for not completing their degrees (a risk modeling approach), as well as emphasis on high-impact optional programs that correlate with higher levels of student success and involve large numbers of participants (an impact modeling approach).

INSTITUTIONAL COMPLETION GOALS, HIGH-IMPACT STRATEGIES, AND ACTIVITIES

Georgia Tech is engaged in the following *Complete College Georgia* goals and strategies:

- **Increase the number of undergraduate degrees awarded by USG institutions.**
Strategy 1: Target increases in completion for students traditionally underserved in postsecondary education.
Strategy 2: Increase degree completion in STEM fields.
- **Provide intrusive advising to keep students on track to graduate.**
Strategy 3: Provide advising and programming to promote student success and ensure that interventions are provided for students who are off track academically.
- **Restructure instructional delivery to support educational excellence and student success.**
Strategy 4: Implement alternative delivery models including online courses and supplemental instruction.
- **Promote high-impact educational practices throughout the undergraduate experience (institutional goal)**
Strategy 5: Provide high-impact curricular and co-curricular opportunities to enhance engagement and academic development.

Appendix D illustrates the relationship of our completion goals, strategies, and activities. Following is a description of our activities and outcomes for each strategy.

Strategy 1: Target increases in completion for students traditionally underserved in postsecondary education. (Related goal: Increase the number of undergraduate degrees awarded by USG institutions.)

Activities related to Strategy 1 include:

- Standardized identification of military learners, first generation college students, underrepresented minorities, Pell recipients, and students with disabilities
- A Veterans Resource Center to provide direct outreach, connect veterans with one another, and to educate the campus community about veterans' issues
- Disability services for students (ADAPTS)
- A faculty/staff committee focusing on the needs of first generation students and disconnected youth
- A first generation student organization
- Coca-Cola scholarships to cover study abroad, conference, and other travel expenses for first generation students
- A summer bridge program and a range of year-round program options for matriculated students offered by the Office for Minority Education: Educational Services (OMED)
- Dedicated advisors in the Office of Scholarships and Financial Aid to assist Pell recipients with information about their grants as well as additional potential financial resources

Georgia Tech has started to systematically track traditionally underserved populations, using definitions specified by the University System of Georgia (USG). Standardized tracking provides a mechanism for improved tracking of the retention and graduation rates for these populations going forward.

The Director of Veterans' Resources engages in direct outreach to veterans and helps to educate the campus community about veterans' issues. The Veterans Resource Center (VRC) provides opportunities for veterans to meet and support one another. In addition to the director for the center, military learners have access to a dedicated staff member in the Registrar's Office, who serves as a liaison between Georgia Tech military learners and the Department of Veterans Affairs. Military learners comprise a small percentage of our student population, less than 1% of undergraduates in fall 2014.

In September 2015, the VRC conducted a Needs Assessment to learn: 1) The extent to which student veterans were aware of and/or had made contact with the Veterans Resource Center; 2) The degree to which student veterans felt a sense of belonging and a connectedness to GT; 3) About their transition to GT; 4) Their awareness of where to go for assistance with their Veterans Administration GI Bill benefits; 5) Their degree of satisfaction with GT campus resources/services; 6) Their military status and branch of service in the United States Uniformed Forces; and 7) How GT can better meet the needs of active duty students, student veterans and their dependents. Survey links will be emailed out to all of the current student veterans, dependents, active duty, and reserve/guard students.

An improved awareness of disability services on campus has resulted in an increase in the self-reporting of students with disabilities over the past several years. In 2014-15, 507 undergraduates with disabilities were served by five staff members in ADAPTS. ADAPTS advocates for students with disabilities, helps to arrange appropriate accommodations, provides individual coaching sessions for students, and offers resources for faculty.

A faculty/staff committee focusing on the unique needs of first generation students and an active FirstGen Student Organization have resulted in direct outreach through financial and practical assistance. Our first generation students will be closely observed in the coming years for academic progress and retention and graduation rates. In fall 2014, 5% of all degree-seeking undergraduates (and 7% of entering degree-seeking undergraduates) were identified as first generation (neither parent had a level of education beyond high school).

A project currently underway is the development of a workshop series on financial literacy. These workshops may benefit a number of students on campus, including our first generation students and Pell recipients.

⁵ Pell recipient upon entering semester.

With a professional staff of five plus thirty student employees, the Office of Minority Education: Educational Services (OMED) provides a range of services designed to promote the success of underserved minorities at Georgia Tech. *Challenge* is a five-week, intensive residential summer program for incoming freshmen designed to prepare students for the Georgia Tech experience. The *Team Coach Program* pairs highly engaged students with freshman and transfer underrepresented minority students in order to assist them both academically and socially throughout their first year at Georgia Tech. OMED also offers workshops, study groups, tutoring, and *Concept Classes*—topic-specific lectures that deal with course material historically found to be the most challenging. The *African-American Male Initiative (AAMI)* helps to address a negative performance trend in the African-American male population. AAMI is the first-ever statewide effort specifically focused on increasing post-secondary education attainment among Black males. In fall 2014, the summer/fall 2014 cohort of AAMI students at Georgia Tech achieved a 3.43 average GPA compared with a 3.04 average GPA for African-American males who did not participate and a 3.40 average GPA for all Georgia Tech males. Appendix E shares additional details about OMED participation and outcomes. OMED plays a key role in the Institute's Center for Student Diversity and Inclusion (CSDI).

Georgia Tech has staff in place to provide outreach to our students with disabilities, underrepresented minorities, Pell recipients, and to U.S. military learners. As noted above, first generation outreach has been provided by a faculty/staff committee and by a first generation student organization. The retention and graduation rates for these various demographic groups represent our ultimate measure of success. Beginning in 2015-16, we intend to observe retention rates of our military learners, first generation students, and students with disabilities.

At this time, we can report on retention and graduation rates for our URM's and Pell recipients and the first-to-second-year retention rate for our students with disabilities. For the 2013 cohort, 94% of URM's were retained to the next year, compared with 96% for non-URMs. The six-year graduation rate for the 2008 cohort was 78% for URM's and 82% for non-URM's (Appendix F). For Pell recipients, 94% of recipients from the 2013 cohort were retained to the next year, while 96% of non-Pell students were retained. Our six-year graduation rate for the 2008 cohort was 80% for Pell recipients and 82% for non-Pell recipients (Appendix G). Our first-to-second retention rate for students with disabilities was 86% compared with a 96% overall first-to-second-year retention rate.

Our ultimate goal is for students in underrepresented populations to be retained and to graduate at or above the institutional rate.

Strategy 2 - Increase degree completion in STEM fields. (Related goal: Increase the number of undergraduate degrees awarded by USG institutions.)

Georgia Tech's vision is to "define the technological research university of the twenty-first century." The sustained economic impact made possible through a better-prepared STEM workforce is significant, and graduating a larger number of STEM students to meet workforce needs is a high priority for Georgia Tech. To meet this goal, we are focusing on both K-12 STEM outreach and the retention of STEM students once they have enrolled.

Georgia Tech is involved in an array of outreach activities specifically designed to attract K-12 students, several of which target increases in women, underrepresented minorities, and students with disabilities. The Center for Education Integrating Science, Mathematics, and Computing (CEISMC) conducts a comprehensive summer program to expose K-12 students to STEM topics and careers. In summer 2015, over 70 individual K-12 STEM programs were held at Georgia Tech. Appendix J illustrates a number of the Institute's STEM outreach efforts and the target population for each program.

While Georgia Tech does not have an education major, our pre-teaching efforts involve partnerships across the state to assist our students who desire to become K-12 STEM teachers. For fall 2014, 60 students who were offered admission to Georgia Tech have expressed an interest in pre-teaching assistance. The pre-teaching advisor will provide direct outreach to interested students who matriculate to assist them with their career plans. Pre-teaching internships are underway at Centennial Place Elementary School and at Grady High School. In addition to K-12 outreach for students, CEISMC has designed and implemented teacher professional learning initiatives for over 20 years. For details on CEISMC's Teacher Education Partnerships, see <https://www.ceismc.gatech.edu/tep>.

Efforts to recruit and retain larger numbers of female students are vital, as women represent one of our best opportunities for increases in STEM fields. Once enrolled, women recruited as engineering students at Georgia Tech have the option to be paired with a mentor, become eligible for corporate-sponsored scholarships, and have the opportunity to assume various leadership positions. The effort to recruit and engage women in STEM fields at Georgia Tech has been successful. Over the past five years, the number of women enrolled in STEM majors at Georgia Tech has increased from 2,793 (20% of total undergraduate STEM enrollment) to 3,638 (25% of total undergraduate STEM enrollment), and once enrolled, women at Georgia Tech graduate at a higher and faster rate than men. The overall six-year graduation rate for women in engineering, our largest STEM area, was 86% in 2013-14 (for the 2008 cohort), compared to an 81% graduation rate for men in engineering. (Overall six-year graduation rates for all students in the 2008 cohort were 86% for women and 79% for men.) See Appendix H for our five-year history of STEM enrollment by gender and Appendix I for our five-year history of graduation rates in the College of Engineering by gender.

Through Georgia Tech's co-op program, 1,583 undergraduates completed 1,860 individual semester-long, major-related work terms in academic year 2014-15. Of this total, 95% of the positions were STEM related, and 76% of the positions were in the state of Georgia. Additionally, in 2014-15, 769 undergraduates completed 819 semester-long internships, 87% of which were STEM related, 57% in the state of Georgia. The co-op/internship program provides in-depth access to STEM opportunities, helps students to make better connections between theory and application, and strengthens students' motivation to stay on course to graduation.

A measure of progress for our STEM recruitment strategy involves the number of students enrolled in STEM majors at Georgia Tech. We have achieved a steady increase in STEM enrollment from 10,389 students in fall 2010 to 11,822 students in fall 2014 (a 14% increase). During the same time period, STEM enrollment also grew in proportion to overall enrollment from 76% of enrollment during fall 2010 to 81% of enrollment during fall 2014.

Table 1: STEM and Non-STEM Undergraduate Enrollment

Category	Fall 2010		Fall 2011		Fall 2012		Fall 2013		Fall 2014	
	n	%	n	%	n	%	n	%	n	%
STEM	10,389	76%	10,718	77%	11,459	79%	11,701	80%	11,822	81%
Non-STEM	3,361	24%	3,230	23%	3,068	21%	2,857	20%	2,860	19%
Total	13,750	100%	13,948	100%	14,527	100%	14,558	100%	14,682	100%

The number of STEM degrees earned represents the ultimate measure of our success for our STEM strategy. Of the 15,598 undergraduate degrees earned during the last five years, 76.6% of the degrees were in STEM fields. In 2014-15, 3,274 STEM degrees were earned, a 7% increase from the number of STEM degrees earned in 2010. The proportion of STEM degrees earned has steadily increased during the past five years from 73% of degrees in 2010-11 to 79% of degrees in 2014-15. See Appendix B for detailed outcome metrics.

Strategy 3 - Provide advising and programming to promote student success and ensure that interventions are provided for students who are off track academically. (Related goal: Provide intrusive advising to keep students on track to graduate.)

A key aspect of our completion strategy involves intrusive advising for students who are underperforming academically or who may be at risk for not returning. Advising and outreach involve the following populations:

- Students with unsatisfactory midterm progress report grades in 1000- and 2000-level courses
- Students in less than good academic standing (academic warning, academic probation, students returning on contract from academic dismissal)
- Students who may be at risk for not continuing their education at Georgia Tech
- Students on the cusp of losing HOPE/Zell Miller and students who have recently lost HOPE/Zell Miller

Georgia Tech identifies students (primarily first- and second-year) who are off-track in a given semester with Midterm Progress Reports (MPRs) in 1000- and 2000-level courses. Submitted after 40 percent of the term has been completed, MPR's allow faculty in these courses to assess student performance with a qualitative indicator of "S" (Satisfactory) or "U" (Unsatisfactory). The grades are intended to alert students to concerns about their academic performance while there is still time to recover; these grades do not affect GPAs or become a permanent part of the transcript. An "S" indicates satisfactory work, usually understood to be performance at a C level or higher. A "U" indicates unsatisfactory work, usually understood to be performance at a D level or lower. However, faculty may report a "U" to indicate any concerns about a student's performance (e.g., to alert a student who may have good homework grades but poor class attendance). All students with U's are contacted by the Center for Academic Success (CAS) and are also encouraged to meet with faculty and with their academic advisor. Additionally, we currently *require* that all first-year students with two or more midterm U's meet with their academic advisor or a CAS staff member, and we use registration holds to enforce the mandatory advisement. During advisement, students receive advice, encouragement, and referrals to campus resources where necessary.

In fall 2014, 238 freshmen received two or more U's at mid-term. Ultimately, 216 of 238 students (91%) participated in advisement. Of 3,138 students with at least one midterm U, 1,187 (37.83%) used CAS services. In spring 2015, we expanded the advisement requirement to include all first-year students with two or more U's. This approach is allowing us to reach not only first-year students who are classified as freshmen but also students with the status of sophomore or above, including first-term transfer students, with U's in 1000- and 2000-level courses. In spring 2015, 308 first-year students earned two or more U's at mid-term: ultimately, 288 of these students (94%) participated in advisement.⁶ Of 2,480 students with at least one midterm U in spring 2015, 1,005 students (40.52%) used CAS services.

In April 2015, a longitudinal study on Georgia Tech's midterm progress reports underscored the fact that final grades in courses for which U's are earned are highly predictive of retention:

- For students with a midterm U in fall 2013 who were able to pull up their grade to A/B/C/S by the end of the term, 97.5% returned for spring 2014 and 93.9% returned for fall 2014.
- For students with a midterm U in fall 2013 who earned a D/F/W/U for the course, 85.1% returned for spring 2014 and only 75.0% returned for fall 2014.

We will continue to ensure that midterm grades provide meaningful early feedback to students and to offer resources to help students succeed in their course work. The midterm progress report process at Georgia Tech benefits from committed cooperation across campus. Appendix K illustrates the relationships of entities across campus involved in the midterm progress report process.

A baseline measure of progress with the midterm progress reporting process is the percentage of students with two or more U's who participate in advisement (91% in fall 2014 and 94% in spring 2015, for a baseline of 92.5%), and the U to A/B/C/S convergence in courses for which U's were earned, (58% in fall 2014 and 53% in spring 2015, for baseline of 55.5%). We aspire to reach and maintain a 100% advisement rate for students with two or more U's, as well as to reach and maintain a U to A/B/C/S convergence rate of at least 58%.

The Center for Academic Success (CAS) was established, in part, to assist Georgia Tech with its retention and

⁶ Students who did not participate in mandatory advisement were primarily composed of students who withdrew from the Institute for the remainder of the semester.

completion goals. With a staff of seven plus approximately 95 student employees, CAS provides a range of resources for students who need additional support. During 2014-15, CAS experienced 28,446 contact points with 6,397 Georgia Tech students. Some of the programs CAS offers are as follows:

- *1-to-1 Tutoring* supplies free, appointment-based peer tutoring sessions for students in more than 84 courses, especially 1000- and 2000-level STEM courses. During 2014-15, 1,525 students participated in 5,222 tutoring sessions. (In addition to CAS tutoring, students have opportunities to engage in tutoring through Clough Commons, Housing, OMED, the Athletic Association, and within individual schools.)
- Supplemental Instruction (SI), known as PLUS at Georgia Tech, provided 21,560 contact hours of assistance for students in targeted, challenging courses. PLUS is covered in more detail in Strategy IV below.
- *Reboot* offers a six-week series of academic recovery workshops and coaching sessions for students on academic warning and probation and for students who are not meeting their own academic expectations. During 2014-15, 74 students participated in *Reboot*. *Success Summit* is a half-day series of workshops and panels for students on academic probation or warning. This optional intervention was attended by 39 students during 2014-15.
- *Academic Coaching* allows students to work with professionals in CAS to establish goals, find motivation, and troubleshoot behaviors that prevent student success. During the 2014-15 academic year, CAS delivered 698 Academic Coaching sessions (a 58% increase from the previous year). The five most commonly covered topics during academic coaching were:
 - Time management
 - Study habits
 - School/life balance (work, family, extracurricular)
 - Procrastination
 - Test preparation/Finals Planning

CAS has recently partnered with Innovative Educators/Student Lingo to provide four student success workshops in an online format. Topics cover:

- Discover Your Learning Style
- Exam Preparation Tips and Test-Taking Strategies
- Overcoming Procrastination: Causes and Cures
- Time Management: Strategies for Success

During the coming year, we will market these workshops widely and track student participation. In-person single-topic workshops will also be offered, although low attendance for these sessions has been a concern during the last two years.

CAS has expanded its programs and services for “at risk” student intervention, specifically in response to CCG. Our newest initiative, GT 2100, is a credit-bearing, one-hour *Seminar on Academic Success* that is mandatory for students returning from academic dismissal. It offers opportunities for reflection, skill development, and one-on-one academic coaching. The course was established in fall 2103 specifically in relation to Tech’s CCG goal to provide increasing support for students who are not achieving academically as anticipated. The inaugural class, taught in spring 2014, was optional, and the course became mandatory in fall 2014. Based on the number of students who need to take the course, CAS offers three to four sections of the course per semester (approximately 20 students in each section). During 2014-15, 114 students returning from academic dismissal participated in GT 2100. A majority of these students met the terms of their contact and were able to continue during the subsequent semester after taking the course—58% in fall 2014 and 61% in spring 2015. As of May 2015, 15 of 27 participants (56%) from the inaugural class were either continuing or have graduated. These positive outcomes for students who are returning from academic dismissal point to the effectiveness of the intervention. We are using next-semester retention as a measure of success for this course. From a baseline of 59.5% for 2014-15, the first year in which GT 2100 became mandatory, we aspire to consistently maintain a next-semester retention rate of at least 60% for this population. We are also tracking the persistence of GT 2100 over time. See Appendix L for outcome metrics.

The Retention and Graduation Coordinator reports jointly to the Associate Vice Provost for Undergraduate Education and the Registrar and is responsible for helping to move our retention and graduation initiatives forward on a full-time basis. One of several activities associated with this position involves an annual survey of students who did not register for fall semester during Phase I. Historically, it has been observed that not registering for classes during Phase I may be a “red flag” for a student who may not be returning or who may be experiencing a barrier to returning. In summer 2014, 632 students who had not registered for fall by the end of Phase I registration were identified and surveyed. In total, 268 of 632 students reported on the primary reasons they did not register in Phase I. Of the 268 students, 152 students wanted someone from Georgia Tech to contact them. The Retention and Graduation Coordinator contacted the 152 students and made referrals as needed to the Office of Scholarships and Financial Aid, academic advisors, the Center for Academic Success, the Center for Career Discovery and Development, the Dean of Students, and the Registrar’s Office. By the end of Phase II registration, 341 of the 632 students had registered. The non-registered survey and outreach also highlighted how changes with the registration process itself may impact student outcomes. Improvements in communication about registration dates, increased registration of students engaged in optional professional internships, and the potential extension of Phase I registration dates are being considered. Our goal is for the number of eligible students who do not register for fall during Phase I to decrease each year.

An annual survey of non-returning students (defined by students who are in good academic standing but have not been enrolled for three consecutive semesters) was institutionalized to help identify students who may need assistance to return to Georgia Tech and to identify primary reasons that students in good academic standing have not returned. Of the 145 students in the non-returning population for this year, only 54% of students were in good academic standing upon leaving Georgia Tech (overall, 94% of the students were in good academic standing for the same time period). These data point to academic standing as a potentially significant marker for withdrawal from Georgia Tech. The Institute’s 2014 survey of non-returning students was coordinated by the Office of Assessment and the Office of Undergraduate Education. The survey was completed by 30 of the 78 students who left the Institute in good academic

standing. The top four reasons students cited for leaving were personal reasons, desired major not available at Georgia Tech, financial reasons, and family or health reasons. Of this group, 12 of the 30 students completing the survey indicated they would like to return to Georgia Tech, and each student was contacted. By spring 2015, 6 of these 12 students had returned. Our goal is to assist non-returning students who wish to return and to observe any longitudinal trends in reasons for withdrawal that emerge. This survey will be repeated annually.

This year, Enrollment Services, Institute Communications, and the Office of Undergraduate Education collaborated to develop an intervention for 302 students who were on the cusp of losing the HOPE or Zell Miller scholarships. The outreach included a postcard sent to students' home addresses; an email campaign from the Office of Scholarships and Financial Aid reminding students of ways to improve their GPA and alternative financial options; email outreach by the Center for Academic Success (CAS) with information about tutoring, academic coaching, workshops, and other resources; and a video, which may be viewed at <https://www.youtube.com/watch?v=X520QF540Is&feature=youtu.be>. Of the 302 students, 203 (67%) opened the email from CAS. The Office of Scholarships and Financial Aid and the Center of Academic Success also reached out at the end of the academic year to 121 students who lost HOPE/Zell Miller to offer academic recovery workshops and services. The goal of these activities is to provide time-sensitive messaging concerning financial and academic success resources during a critical point in which students are experiencing a downward trend in their academic progress.

In an effort to improve resources and tools available to academic advisors, Georgia Tech has purchased GradesFirst, advisor workflow software, to manage messaging to students, track advising meetings, and identify select student attributes. GradesFirst will be fully implemented in fall 2015. To further support our CCG advising goal, a full-time Undergraduate Academic Advising Manager position has been established to coordinate advising practices and develop advising resources that have potential for impacting students' retention and completion. This position will report to the Associate Vice Provost for Undergraduate Education. A search to fill this position is currently underway.

Strategy 4 - Implement alternative delivery models including online courses and supplemental instruction. (Related goal: Restructure instructional delivery to support educational excellence and student success.)

The Summer Online Undergraduate Program (SOUP) offers opportunities for students to take online classes during summer semesters. These online options allow Georgia Tech to engage students who may not otherwise study during summers. We are measuring the success of SOUP based on increases in the number of courses offered, the number of completed online enrollments, and the percentage of completed courses with a grade of A/B/C. From a baseline of 12 courses offered in summer 2013, we have expanded to 18 courses in summer 2015. From 2013 to 2014, SOUP experienced a 131% increase in completed enrollments. From 2014 to 2015, the program experienced a further increase in completed enrollments of 111%. From an 82% baseline percentage of course completions with a grade of A/B/C in summer 2013, A/B/C rates were 94% in summer 2014 and 89% in summer 2015.

Table 2: Online course participation for SOUP 2013-15

Semester/Year	# Courses	# Enrollments*	# Enrollments Completed*	A/B/C Grade by N	A/B/C Grade by %
Summer 2013	12	112	99	81	82%
Summer 2014	15	248	229	215	94%
Summer 2015	18	533	483	430	89%

*Enrollments = a single registration. A unique individual can have multiple enrollments.

Innovation in teaching and learning is a key component of Georgia Tech's mission. In alignment with this aspect of our mission, Georgia Tech provides supplemental instruction (called Peer-Led Undergraduate Study (PLUS) at Georgia Tech) to students in traditionally challenging courses, including Calculus I, II, and III, ISYE 2027, BMED 3300, PHYS 2211, and PHYS 2212 through the Center for Academic Success (CAS). The two physics courses were supported during 2014-15 by a CCG Innovation grant.

Enrollment and the number of contact hours represent a marker of success for PLUS. During fall 2014, 2,071 students participated in PLUS for total of 11,163 contact hours. During spring 2015, 2,004 students participated for a total of 10,397 contact hours. During fall 2014, 37% of students in the above courses participated in PLUS; during spring 2015, 38% participated.

To measure whether or not PLUS is successful, we are comparing students' final grades in courses for the PLUS and non-PLUS participants. Our goal is for students in PLUS to consistently outperform their peers who do not participate. In both fall 2014 and spring 2015, this goal was achieved. In the fall, 88% of PLUS participants earned a grade of A/B/C/S, while only 82% of their peers who did not participate in PLUS earned an A/B/C/S. In spring 2015, 87% of PLUS participants earned a grade of A/B/C/S, while only 82% of their peers who did not participate in PLUS instruction earned an A/B/C/S. Mean course grades for PLUS participants were also higher in both semesters. See Appendix M for fall 2014 and spring 2015 PLUS outcomes.

Strategy 5 - Provide high-impact curricular and co-curricular opportunities to enhance engagement and academic development. (Related goal: Promote high-impact educational practices throughout the undergraduate experience.)

Along with the risk modeling approach implicit in Strategies I and III, Georgia Tech employs an impact modeling

approach by providing a range of curricular and co-curricular offerings designed to enhance the undergraduate experience. According to the Association of American Colleges and Universities, these teaching and learning practices have been widely tested and found to have a positive impact on student retention and engagement.⁷ Along with an optional first-year seminar (GT 1000), we are now offering GT 2813, a transfer student seminar. Both GT 1000 and GT 2813 assist students with adjusting to the culture of rigor at Georgia Tech and introduce students to academic and career resources. These optional courses served over 1,600 students in 2014-15, and students in the courses had a first-to-second year retention rate of 96%.

Additional enhanced forms of education at Georgia Tech include:

- Living/learning communities
- Undergraduate research
- Global learning through study and work abroad programs
- Experiential education (co-op and internship programs)

The Grand Challenges Program, a living-learning community for incoming freshmen, helps students develop leadership, teambuilding, and analytical skills not taught in traditional first-year classes. In this program, students live together in a residence hall and engage with faculty from a variety of disciplines. The students also take one academic class per semester together and, in groups of eight to ten mentored by a faculty member, develop proposals for a potential solution to a real-world problem. More than 300 students currently participate in the Grand Challenges community as students, mentors, advisors, recruiters, ambassadors, and student and teaching assistants. The Honors Program, another popular living-learning community, promotes intellectual curiosity and creates an academic context in which students can work with professors and other students in a spirit of intellectual inquiry. Over 650 students are enrolled in the Honors Program. ThinkBig, with a menu themed-based living-learning options, involves monthly programming, outings, and professor engagement with students. Approximately 200 students currently participate in ThinkBig.

We continue to observe correlations between such communities and higher-than-average retention and graduation rates. For example, Grand Challenges has enjoyed a 99.9% retention rate over the last three years.

For the 2008 cohort of Honors Program students, 91% graduated within six years. Georgia Tech has developed a strategic plan to expand our living-learning communities over the next few years, particularly for first-year students. We believe that expanding our living-learning communities is a key opportunity to improve our first-to-second year retention as well as our six-year graduation rate.

The Center for Academic Enrichment oversees the coordination of the Undergraduate Research Opportunities Program (UROP). Undergraduate research is a key complement to the mission of Georgia Tech. Research—a catalyst for innovation—sparks critical thinking and creativity, builds on teamwork skills, fosters relationships between students and faculty, and solves real-world problems. During AY 2014-15, 2,782 students (19% of undergraduates) participated in undergraduate research courses compared to 2,602 students in AY 2013-14, an increase of 6.9%. In summer 2014, 426 students were enrolled in undergraduate research courses. In fall 2014, 1,166 students enrolled in undergraduate research courses, an 11.7% increase in total enrollment from the fall 2013 semester. For spring 2015, 1,190 students were registered for research, a 6.6% increase from the previous spring.

Table 3: Undergraduate research enrollment since AY 2004-05

Course #	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15
2698	8	25	40	33	41	45	47	42	35	44	63
2699	85	95	144	180	218	253	243	310	311	392	494
4698	221	259	388	367	364	479	447	417	385	433	426
4699	651	829	1008	930	1187	1311	1451	1524	1557	1733	1799
Total	965	1208	1580	1510	1810	2088	2188	2293	2288	2602	2782

The Office of International Education provides opportunities for students to become more globally competent through study abroad options and global internships. During 2014-15, 1,881 students (13% of undergraduates) studied or worked abroad.

Table 4: Undergraduate study/work abroad participation for Summer 2014-Spring 2015

Semester	# of students studying abroad	# countries for study abroad	# of students interning abroad	# of countries for internships
Summer 2014	956	40	88	32
Fall 2014	237	21	22	6
Spring 2015	555	26	23	10

To complement Georgia Tech's efforts to encourage entrepreneurship in all sectors of society and simultaneously provide experiential learning opportunities to enhance students' education, the Center for Career Discovery and Development (C2D2) facilitates the co-op and internship program. Optional co-ops and internships provide students

⁷ George D. Kuh, *High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter* (Association of American Colleges and Universities, 2008).

with in-depth, major-related learning experiences through paid positions with our industry and government partners. During 2014-15, 2,352 (16%) of undergraduates experienced a co-op or internship for a total of 2,679 work terms. Table 5 illustrates our co-op and internship participation for 2014-15.

Table 5: Co-op and internship participation for Summer 2014-Spring 2015

Semester	# of co-op work terms	# of co-op employers	# of professional internships	# of internship employers
Summer 2014	643	266	503	354
Fall 2014	631	264	131	114
Spring 2015	586	214	185	137

In addition to providing students with an enhanced form of education, these academic enrichment programs have shown positive correlations with graduation rates. A review of the 2004-2008 cohorts participating in these programs demonstrates average six-year graduation rates that significantly exceed those for the Institute as a whole (Appendix N). Six-year graduation rates for our 2008 program cohorts appear in Table 6.

Table 6: Graduation rates for select academic enrichment programs

Program	Six-Year Graduation Rates for 2008 Program Cohorts
Undergraduate Research	94%
Study Abroad	98%
Co-op	96%
Internship	98%

One measure of progress is the number of participants in each academic enrichment option; however, our final measure of success is the graduation rate for students participating in these programs (detailed above). Our challenge is to maintain high enrollment and similar graduation rates for these cohorts over the next several years.

OBSERVATIONS

Over the past ten years, Georgia Tech has achieved an increase in both retention and graduation rates. The percentage of first-time, full-time freshman students returning for their second year rose from 92% for the 2004 cohort to 96% for the 2013 cohort. A ten-year review of our six-year graduation rates shows a rise from 76% for the fall 1999 cohort to 82% for the fall 2008 cohort group. Overall enrollment, STEM enrollment, and the number of conferred degrees have also been on a steady, upward trajectory. Since the inception of *Complete College Georgia*, Georgia Tech has implemented a number of programs and interventions across campus we believe are positively impacting the success rate of our students.

While Georgia Tech’s four-year graduation rate of 37% is lower than our peer average of 67%, the academic enrichment opportunities available through co-op opportunities, internships, study/work abroad and undergraduate research give students a competitive advantage when they graduate and go on to pursue their careers or further their education. The extra semester or two that it takes students to participate in these endeavors makes for a worthwhile reason to extend their time in college beyond the four-year mark. Indeed, at the end of six years, Georgia Tech’s graduation rate of 82% is the same as the rate for its public peers.

We are observing positive outcomes for the various Center for Academic Success offerings such as tutoring, academic coaching, PLUS (supplemental instruction), and our GT 2100 required course for students returning on contract from academic dismissal. We are seeing that carefully-designed interventions for students underperforming academically are improving their success rates.

Programs in OMED are also continuing to make a difference. SOUP is expanding opportunities for students to study online in summer, which may positively impact time to graduation. We are experiencing high retention rates for students who are living on campus. We are also seeing positive results from our outreach to non-registered students—a process that allows us to uncover individual student situations that need to be addressed.

Our academic enrichment programs (living-learning communities, undergraduate research, study abroad, and experiential learning) have wide participation and are correlated with high six-year completion rates. A take-away is that high-impact academic enrichment programs have the potential for influencing student motivation, engagement, and graduation rates.

With these successes, we are observing several opportunities for improvement. Our CAS single-topic student success workshops have not been well attended in the past year. In the coming year, we will track the participation in our new online workshops (available 24 hours a day) to see if they are a more viable option for students. We will also continue to market and track in-person workshop options.

At this time, only about one-fourth of our students on academic probation are using CAS services. To address a need for greater outreach to our students underperforming academically, we are considering piloting a section of GT 2100, a one-hour, credit-bearing *Seminar on Academic Success*, for 15-20 students on academic probation. Retention rates for students in this course would be compared with retention rates of non-participating peers.

An intentional campaign to encourage more students in our “at risk” categories to become involved in programs that involve extensive engagement with faculty and industry partners may improve our graduation rates for students in these populations. Having supplemental funds available for students who exhaust their financial aid options prior to graduating may prevent some of these seniors from withdrawing prior to completion. A greater focus on time to completion could potentially impact a large number of students.

A *Complete College Georgia-GT Steering Committee* meets on a regular basis to monitor the progress of our strategies and to provide leadership for new initiatives. Appendix O lists our 2015-16 committee members, which include representatives from across campus.

In our continued focus on student success, we are employing both risk modeling and impact modeling approaches. Strategies span the range from macro-level programs to micro-level interventions. By concentrating our efforts on the strategies described in this document, we anticipate high completion rates and deep learning experiences for our students.