

# *The Georgia Tech Honors Program*

## *A Second-Year Perspective*



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### **Introduction**

In less than two years, the Georgia Tech Honors Program has established itself as a striking campus success story. After welcoming its first class of students in the fall of 2006, the Honors Program now provides a compelling demonstration of what great and creative things can happen when talented students and committed faculty members work together in an environment of shared inquiry and intellectual engagement. Honors Program courses have been incubators for educational innovation, giving both students and faculty members an opportunity to explore interdisciplinary approaches to fresh and significant questions that invite connections across the traditional curriculum. Beyond the classroom, the first two cohorts of Honors Program participants, a remarkable group of just over 200 first- and second-year students, have injected energy and enthusiasm into the Georgia Tech community. They have already set a trajectory that promises to make the Honors Program an increasingly vital part of campus life, providing both a model and a challenge that can help direct the intellectual and cultural future of the Institute. We now look forward to a new entering class in the fall of 2008 and, with those incoming students, new sources of the engagement, imagination, and even surprise that have made the Honors Program a success so far.

### **1. The Honors Program Students: Admission, Assessment, and Success**

*Not By Grades Alone:* The original committee that designed the Honors Program made a critical decision early on in the planning stage: admission to the Georgia Tech Honors Program would not be driven, much less determined, by numerical measures such as high school GPA or SAT scores. To be sure, many honors programs at other institutions approach the process of admissions that way, but it simply doesn't make sense for Georgia Tech, where virtually all admitted students have outstanding academic records. Our approach, rather, has been to take on the more difficult but ultimately more rewarding task of reading and carefully evaluating the original application files of those students admitted to Georgia Tech and, out of that group, selecting a small subset for invitation to the Honors Program.

What most influences the invitation? In a word, *engagement*. That is, we look for students whose records demonstrate considerable evidence of sustained involvement in, even passion for, significant intellectual, cultural, or social activities, whether in or out of the classroom. For some students, those activities might be Science Olympiad, robotics, math team, mock trial, debate, drama, or some form of community service. Indeed, for many of our Honors Program students, music is a particular passion, and we could now put together a good orchestra with the students in the Program. The exact nature of those activities matters less, in fact, than the degree of commitment to them. We assume that students who have been seriously engaged in something as high school students will bring that enthusiasm with them to Georgia Tech, and the Honors Program will give them a supportive base from which they can extend and even expand their level of engagement in a new environment. Knowing what we now know about the first two classes of Honors Program students, that assumption has proven to be a good one.



There are many opportunities for student/faculty interaction.

***Active and Inquisitive Students:*** By almost any measure, the students in the Georgia Tech Honors Program present an impressive profile. ***First***, the true character of the Honors Program students can perhaps best be defined by the ideas and attitudes they bring with them, and happily, we have some measure of those. Every year the Georgia Tech Office of Assessment conducts a survey of entering students, the Cooperative Institutional Research Program (CIRP), a nationally-administered instrument that provides comparable data over time and across institutions. In the fall of 2007, a significant enough number of Honors Program students (97) took part in the CIRP survey to allow us to discern some of the differences between them and the other entering Georgia Tech students who

took the survey (1109). Complete results are available at [www.gatech.edu](http://www.gatech.edu), but some of the more significant and revealing CIRP results can be clustered into the following categories (where the numbers represent percentage of students responding “frequently” or “very important”):

	<b>HP</b>	<b>GT</b>
<b>Intellectual curiosity:</b>		
Asked questions in class	76.0	53.4
Evaluated the quality or reliability of information received	64.2	45.0
Sought alternative solutions to a problem	57.3	44.7
Explored topics on own, even though not required for class	53.1	37.1
Looked up scientific research articles and resources	41.7	28.4
Important to take courses outside of major	80.3	67.5
Plan to pursue prestigious scholarship (Rhodes, Marshall, etc.)	69.0	47.5
<b>Interaction with faculty and other students:</b>		
Socialized with someone of another racial/ethnic group (before GT)	90.4	76.1
Expect to socialize with someone of another racial/ethnic group (at GT)	100.0	95.1
Expect to have roommate of different racial/ethnic group	93.6	81.4
Asked a teacher for advice after class (before GT)	40.4	24.6
Expect to communicate regularly with professors (at GT)	96.8	81.7
Expect to participate in some form of mentored undergraduate research	83.3	66.0
<b>Involvement in cultural activities and societal concerns (past year):</b>		
Played a musical instrument	51.6	31.8
Discussed religion	46.8	35.6
Discussed politics	45.7	33.7
Performed volunteer work	42.6	31.5
<b>Importance of:</b>		
Developing a meaningful philosophy of life	68.1	50.6
Improving my understanding of other countries and cultures	73.1	53.2
Influencing social values	47.4	30.9
Becoming a community leader	43.6	34.1
Becoming involved in programs to clean up the environment	42.6	28.5
Participating in a community action program	40.4	28.6
Helping to promote racial understanding	41.5	33.4
<b>Anticipated participation in campus activities:</b>		
Student clubs/groups	95.7	89.6
Study abroad program	90.0	65.3
International Plan	63.0	45.7
Volunteer or community service work	82.1	73.7
Student government	55.8	37.0
Social fraternity or sorority	39.0	42.5

**Second**, the goal of the Honors Program has been to blend this group of remarkable individuals into a community, especially as students make the transition to college in their first year at Georgia Tech. It was for that reason that the original Honors Program planning committee decided to have the first-year students live in a single residence hall, where they could experience both the diversity and the unity of the Honors Program. The demographic diversity is significant, and in some categories – gender, above all – significantly different from that of Georgia Tech as a whole:

Gender

Female - 44%

Male - 56%

Residency

In State - 63%

Out of State - 35%

International - 2%

Ethnicity

Asian - 18%

Black - 10%

Hispanic - 8%

White - 64%

In addition to seeking diversity in these demographic categories, we have tried to increase the social diversity of the Honors Program community by making sure to include a number of students attending Georgia Tech under the Tech Promise program, which provides full financial support for students from families with a household income under \$30,000 per year.

We have likewise been intentional about ensuring intellectual and academic diversity in the composition of the Honors Program by including students from all six of Georgia Tech's colleges. We think it is important that engineering students get to know architecture students, for instance, biology students get to know economics students, and management students get to know computer science students.

Major by College

CoA - 6%

CoC - 8%

CoE - 55%

CoM - 5%

CoS - 14%

IAC - 12%

**Finally**, the Honors Program students have certainly shown they can do the academic work at Georgia Tech, and do it quite well. Even though they were not selected primarily for good grades and SAT scores, they came with both: the average SAT scores for Honors Program students in the first two entering classes ran about 50 to 100 points above the overall average SAT for their

Georgia Tech classmates. Moreover, once they matriculated at Tech, the students in the Honors Program have performed extremely well, as the following GPA distributions indicate:

*Total - 233 students (Classes of 2010 and 2011)*  
 Average GPA 3.33

<i>GPA</i>	<i># of students</i>
4.00	48
3.50–3.99	72
3.00–3.49	48
2.50–2.99	25
2.00–2.49	11
<2.00	14

<i>Academic Status</i>	<i># of students</i>
Faculty Honors	45
Dean’s List	115

## **2. Academic Innovation: Honors Program Faculty and Courses**

From its very inception, the Honors Program has been promoting a positive approach to student-faculty interaction, both in and out of the classroom. In doing so, it is addressing an issue that seems to be of considerable concern in the broader campus culture. In February 2008, the Georgia Tech Office of Communications and Marketing released the first phase of a Student Engagement and Motivation Study, in which a cross-section of Georgia Tech students – none of them Honors Program students, it should be noted – offered their evaluation of the overall undergraduate experience. The initial qualitative data revealed that while most students at Georgia Tech seemed pleased with their undergraduate experience, the one area of dissatisfaction seemed to be the quality of student-faculty interaction. Student focus groups underscored their desire for faculty members to be more personal, approachable, and accessible in their day-to-day dealings with students, and they also called for more opportunities for students and faculty members to work together on research projects and even just to converse about personal and professional issues. Clearly, there seems to be a need for improvement in this significant aspect of student satisfaction in the general Georgia Tech community.

By offering an alternative faculty-student experience, the Honors Program provides an important model for a more positive outcome. The Honors Program curriculum emphasizes active intellectual engagement and the mutual exchange of ideas rather than just the transfer of information. We are not the only source of that sort of teaching on the Georgia Tech campus, but we do underscore that approach among everyone connected with the Honors Program – faculty and students alike. That’s what gives our program its intellectual identity, our courses their intellectual integrity, and our

students an exceptional intellectual experience. The program seeks to bring civic engagement, diversity, and global learning into the curriculum in a meaningful way.



As part of an Honors Program EAS course, first-year students Jonathan Effgen, Vivian Fan and Christine Amuzie were responsible for a modification in the lighting of Bobby Dodd Stadium that will save thousands of dollars a month.

In the first semester at Tech our students enroll in at least two Honors Program core courses, which typically include introductory biology, chemistry, English, history, psychology and calculus. These differ from the standard courses mainly in class size and approach. They are designed to cover the same basic material, but in a more interactive manner with student inquiry driving classroom discussions. This sort of pedagogy cannot be effectively implemented in large groups, so the class size ranges from just 16 to 35 students. We have been fortunate in attracting professors who have a passion for innovative teaching. Dr. Hugh Crawford (LCC), for example, has consistently engaged in learning activities – from creating a documentary film to building a homeless shelter – that stretch the boundaries of the standard English composition course. Dr. Joseph Perry, who taught a highly-praised Honors Program chemistry class, selected one of our first-year physics majors to work in his lab. Overall, our students report a strong personal connection to this type of learning, which extends from the classroom into the residence hall and study lounge and beyond.

In each of the following three semesters, students enroll in an Honors Program special topic course of their choice. These courses represent the integrated and interdisciplinary learning culture we hoped to foster and nurture on campus. To develop the special topic courses, requests for course proposals are issued to department chairs, who then forward them to eligible faculty. Faculty members are encouraged to propose a theme of personal interest that may not quite fit within the confines of the

standard curriculum. Here is a sampling of particularly successful special topic courses that have been introduced over the past two years:

- CHEM 2803: *The Evolution of Life*, taught by Prof. Nick Hud. This highly complex subject was introduced at a level accessible to first- and second-year students. It has been offered twice and led to three of our students joining Dr. Hud's NSF-sponsored research team.
- EAS 2803: *Energy, Environment and Society*, co-taught by Prof. Kim Cobb and Dr. Monica Halka. This timely course challenges students to come up with creative solutions to energy issues, effecting real change on campus. This course has been offered twice and has now been adopted as a regular open course by the EAS department.
- ARCH 4822: *Race, Space & Architecture in the United States*, taught by Prof. Benjamin Flowers. Diversity issues are addressed explicitly in this course that encourages students to explore the ways in which notions of race and positions of privilege affect the construction of spaces. This course is now offered as a regular open course by the college of architecture.
- ECE 2803: *Technology and Disasters: Causes, Prevention, & Recovery*, taught by Prof. Joseph Hughes. In this course, ongoing debates about recovery and reconstruction along the Gulf Coast provided a unique opportunity for students to explore the social context of engineering and technology. This course was a real motivator for student involvement. One student, who went to New Orleans to work with the Student Conservation Association about a week after the course ended, wrote "The information and problem-solving approaches that I took out of [Dr. Hughes'] class helped me to frame what I saw and did on the gulf coast and put it into perspective."
- HTS 2803: *Semester in the City: Engaging English Avenue*, co-taught by Dr. Gregory Nobles and Ms. Andrea Ashmore. In this hands-on service-learning course, students studied the English Avenue community, a nearby neighborhood facing serious challenges but also developing its own strategies for change, in order to learn how the community works and, equally important, to work in the community on sustainable projects that will strengthen the connections between English Avenue and Georgia Tech.

### Educational innovations

*Student poster sessions:* Students from all special topic courses are invited to participate in a finals week poster session, open to the campus, which gives them a chance to explain and defend their work in academic terms.

*Integrating the Arts into the Curriculum:* By special arrangement with the Ferst Center for the Arts, our special topic professors are encouraged to take their classes to performances whose theme fits in with the course.

*NCHC-sponsored workshop:* Interdisciplinary teaching and learning is not the norm and is therefore non-intuitive to many students and professors. To help gain an understanding of the integrative nature of interdisciplinary pedagogy, we invited Dr. Pauline Gagnon, president of the Association for Integrative Studies, to facilitate a workshop for our faculty to investigate best practices in this arena.

Our next challenge is to maintain student engagement with the Honors Program as students move beyond our specific curriculum and into their final two years of study in their respective majors. We are working with representatives from all colleges and departments to find ways to continue the student experience in line with our pedagogical approach, but also to fit the individual needs of each major field of study. We are also currently working on a rigorous assessment plan that we hope will give a more quantitative idea of where we have been and where we need to go from here.

### **3. Beyond the Classroom: Activities and Opportunities**

In designing the Honors Program, the original committee decided to have the students live in a common residence hall for the first year, a policy that, somewhat to our surprise and much to our delight, has proven to be one of the most successful aspects of Honors Program life. In the Program's first year (2006-2007) students truly took ownership of the Honors Program dorm, Howell Hall, and made it an active living-learning community in which students circulated freely in the hallways and congregated regularly in the study lounge for collaborative work and conversation. In writing about the Howell study lounge, one student called it a "sacred space." Howell Hall continued to be an excellent student residence in 2007-2008, and now as the Honors Program moves into a new first-year residence, Field Hall, we anticipate an equally positive response to an even more expansive space that will include an Honors Program office for advising and meetings.

A striking sign of the success of the Honors Program residential community is that about half of the students who have lived in Howell Hall in the first two years have chosen to stay together, signing up

to live as a group in the recently-opened North Avenue Apartments. Now North Avenue has a significant number of second- and third year Honors Program students, and we expect the Honors Program population there to become a central part of the programs now developing there for upper-level students.

In addition to promoting a sense of community among students, one of the most important goals of the Honors Program has to encourage interaction between students and faculty members outside of the classroom, preferably in venues where students feel most at ease – e.g. Brittain Dining Hall and the adjacent Brittain Rec room. To that end, we have hosted informal receptions for Honors Program students and faculty in Brittain Rec, invited faculty members to have dinner in Brittain Dining Hall with small groups of HP students, and sponsored a student-organized, student-faculty retreat in the early part of the fall semester. We also provide faculty members teaching in the Honors Program with financial resources to enable them to join their students in some on- or off-campus social or cultural activity.



Dr. Alan Lightman lectures on “The Crossroads of Science and the Arts.”

The Honors Program has itself been the source of some of those activities, sponsoring or co-sponsoring speakers who not only give formal presentations but also meet informally with students. In March 2008, for instance, the Honors Program worked in concert with the College of Sciences to bring Professor Alan Lightman of MIT to the Georgia Tech campus to deliver the annual Karlovitz Lecture. Lightman gave his formal evening talk to an audience that came from both the campus and the larger Atlanta community, but the following day he met with about forty Honors Program students in Brittain Rec for an extended Q&A session over lunch. That model of formal lecture/informal discussion is one that the Program will seek to replicate with subsequent speakers,

giving undergraduates closer access to visiting scholars, artists, and professionals. In the near future, we also plan to expand the circle of speakers to include Georgia Tech alumni, who can best connect their own times as Georgia Tech students to their later experiences in life. In general, we think creating direct relationships between smart and inquisitive students and successful and socially responsible adults is one of the best ways to impart the true value of a college education and the habits of lifelong learning it can promote.

***Student Challenge Fund:*** The Honors Program makes funding available to students who have a special project or goal for which they feel a personal passion related to community service, leadership, global learning or social awareness. A formal proposal procedure allows students to understand how grants are considered and appropriated by national funding agencies and others. Some of our funded individual and group activities are listed below:

ACCESS (Achieving a College Connection through Experienced Student Service): HP students organized to bring Tech students to local Atlanta High Schools to assist underprivileged students in preparing their college applications.

Alternative Spring Break: A group of HP students organized an alternative break to help maintain the Appalachian Trail. The group has evolved into a campus-wide student organization (Trailblazers) that promotes hiking and trail maintenance locally and nationally.



Working on the Appalachian Trail

Sustainability Test Garden: HP students have installed and are attempting to maintain a sustainable food garden outside Field Residence Hall, the new HP Living/Learning dorm.

HP Bicycle Initiative: In the interest of sustainable practices and as the result of a student proposal, we have purchased six bicycles for student use around campus and the city.

Conference and Service Travel: Honors Program students have been granted partial funding to help them attend various national and international conferences and service trips including:

- the Middle East/North Africa Leadership Development Seminar, held in Bouznika, Morocco
- the 2008 National Game Developers Conference in San Francisco
- the INNOVATE 2008 Asia program
- a service trip to Costa Rica with the Foundation of the International Medical Relief of Children
- a service trip with Engineering Students Without Borders to help with Habitat for Humanity building in Tosagua, Ecuador
- LBAT program assistance for several students

In return, students are expected to communicate their experience to other students in the Program. While some have elected to write an article for the newsletter, many others wish to give a formal presentation and answer questions, which led several of our students to organize an Honors Program Expo event in the spring of 2008.

***Honors Program Expo:*** Students employed several methods of presentation, including posters, Pecha Kucha style PowerPoint shows, and hands-on demonstrations, such as the experimental student-designed thermo-acoustic generator. Invitations were sent to all departments on campus and the turnout by faculty and staff was exciting. The first expo was so successful that we plan to make it an annual event to showcase what our students are doing and what effect they are having on campus and around the world.



Demonstrating the thermo-acoustic generator

## 4. Future Objectives and Challenges

After two years, the Georgia Tech Honors Program has defined a trajectory that points to a very promising and exciting future as an important institution within Georgia Tech. There are, however, several areas that will need continuing attention as the Program develops.

- *Faculty for Honors Program Courses* -- So far, the Honors Program has been fortunate to recruit creative and committed faculty colleagues to teach both core courses and special topics courses, and their good work has been praised by HP students. Each semester, though, the number of faculty members teaching for the Honors Program has been just barely enough to cover curricular needs. While the Program has been able to offer individual faculty members a modest amount of support – up to \$1000 for course development, professional development, and/or course-related student activities – we have not been able to provide buy-outs or any other form of compensation to the academic units. From the perspective of deans and school chairs, then, the Honors Program may well seem an unfunded mandate, or certainly a drain on limited faculty resources, and some have been reluctant or resistant to allowing their faculty members to teach in the Program. In the future, no doubt, the Honors Program will need to have the resources to be able to offer academic units some measure of financial compensation, perhaps \$8000 per course, for the participation of their faculty members.
- *Student Aid* – Honors Program students are eligible, like all Georgia Tech students, for the various forms of financial aid the Institute offers, but the Program itself does not provide any financial assistance for tuition, fees, and such. We would like to be able to do so in the future, both to attract the students we want and to keep the ones we have. (To date, the only two Honors Program students to have left Georgia Tech after matriculating have done so for financial reasons – one to take advantage of in-state tuition at a public institution in his home state of New York, the other to accept a full scholarship offer at Caltech.) In seeking financial support for Honors Program students, we do not mean to compete with or in any way undermine the President’s Scholarship Program; indeed, 34 Honors Program students in the first two entering classes are also PSP recipients. We do recognize, however, that these two selective programs at Georgia Tech have different criteria for identifying and attracting

exceptional students, and we'd hope that the ones we invite to the Honors Program will be able to receive the financial assistance they may need to help them accept the invitation.

- *Academic and Cultural Programming* – One of the great contributions the Honors Program can make to Georgia Tech is to help enhance the intellectual and cultural life of the larger campus community. The Program has already done so, in fact, by sponsoring speakers, most prominently in its partnership with the College of Sciences in the Karlovitz Lecture Series, and by working with the Ferst Center for the Arts to expand the student audience for performances. Several speakers are already scheduled for the 2008-09 academic year, and the Honors Program continues to seek additional opportunities for collaboration and cost-sharing with academic units, the Ferst Center, and other potential partners.