

Georgia Institute of Technology

1998 Higher Education Research Institute Faculty Survey Results

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Executive Summary

In October, 1998, Georgia Tech participated in the 1998 UCLA Higher Education Research Institute (HERI) faculty survey. This survey is conducted every three years, and is designed to afford higher education researchers a glimpse of faculty issues on a nationwide scale. This report describes information on characteristics and attitudes of two groups of faculty members: 1) at Georgia Tech (GT), and 2) within a comparison group of six peer institutions of Georgia Tech that also participated in the survey (Stanford University, Johns Hopkins University, MIT, Carnegie-Mellon University, Cal Tech, and Virginia Tech).

The results for the selected peer comparison group were based on 746 full-time undergraduate faculty responses. At Georgia Tech, 785 faculty were surveyed. 262 responses resulted in a 33 percent response rate. Chi-square tests for generalizability revealed significant differences between the surveyed population and the obtained sample at the $p < .01$ level by faculty rank and by department (school) of current appointment. Results from this survey should therefore be interpreted with caution, since they cannot be generalized to the larger population of interest at Georgia Tech. Substantive findings are summarized below by area.

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Scholarly activity [\(click here\)](#)

In relation to their counterparts in the peer comparison group, full-time faculty respondents from Georgia Tech:

- were more likely to have published over 10 articles in academic or professional journals;
- reported publishing slightly fewer books, manuals, or monographs; and
- reported greater levels of scholarly activity in total professional writings published or accepted for publication in the last two years.

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Teaching and related activities in the last two years [\(click here\)](#)

- A slightly higher proportion of responding full-time Georgia Tech faculty reported *using intra- or extra-mural funds for research* than was the case among respondents from the peer comparison group, as well as *teaching service learning courses* slightly more frequently.
- Similar proportions of responding full-time Georgia Tech faculty and peer comparison group faculty reported *working with students on a research project, teaching interdisciplinary courses, placing or collecting information for a course on the Internet*, and (very few in both groups) *teaching a course exclusively on the Internet*.
- Instructional activities more frequently cited by responding full-time faculty in the peer comparison group than by responding full-time Georgia Tech faculty included *participation in teaching enhancement workshops, team-teaching a course, and teaching an honors course*.

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Instructional techniques used [\(click here\)](#)

- Full-time faculty respondents from Georgia Tech were more likely than similar respondents in the peer comparison group to use *extensive lecturing* in most or all undergraduate classes as well as using *computer/machine aided instruction* somewhat more frequently.
- On the other hand, respondents from the peer comparison group reported using a number of interactive and student-centered instructional methods more frequently than did full-time faculty respondents at Georgia Tech. These methods included *class discussions, group projects, cooperative learning, independent projects, recitals or demonstrations, multiple drafts of written work, student-developed activities, experiential learning/field studies*, and

student-selected topics.

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Evaluation methods used [\(click here\)](#)

- With both responding full-time Georgia Tech faculty and similar respondents in the peer comparison group, the most frequently used instructional evaluation method was *competency-based grading*.
- *Quizzes* and *grading on a curve* were used more frequently by responding full-time Georgia Tech faculty than by similar respondents in the peer comparison group.
- Most other evaluation methods, especially those that involve the evaluation of a written student product, were used more frequently by full-time faculty respondents in the peer comparison group than by similar Georgia Tech respondents. These include *short-answer mid-terms/finals*, *essay mid-terms/finals*, *term/research papers*, *student presentations*, *weekly essay assignments*, and *student evaluations of each others' work*.

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Goals for undergraduates

- Substantial agreement was evident from both full-time faculty respondents at GT and similar respondents within peer group institutions that *developing the ability to think clearly* and *preparing for graduate education* are important goals for undergraduates.
- Responding faculty at Georgia Tech placed more importance on *preparation for employment* than responding faculty in the peer group institutions.
- Most other goals listed were rated as more important by responding faculty in peer group institutions than by faculty at GT, including *enhancing self-understanding*; *preparing for responsible citizenship*; *helping develop personal values*; *developing moral character*; *enhancing appreciation of other racial/ethnic groups*; *enhancing out-of-class experiences*; *instilling a commitment to community service*; and *providing for emotional development*.

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Priority issues [\(click here\)](#)

- Similar high priority was accorded to three campus-wide issues by both full-time Georgia Tech faculty respondents and analogous respondents in peer comparison group: *enhance the institution's national image*, *increase/maintain the institution's prestige*, and *promote intellectual development*.
- A number of other issues were cited as high priority by a notably greater margin (10+ percent) of peer comparison group faculty than

by responding GT faculty, mostly dealing with multi-cultural environment, developing community, and helping students develop values.

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Attributes characteristic of the institution

- Full-time faculty respondents at Georgia Tech judged two attributes to be more characteristic of the institution than did similar respondents from the peer comparison group: *perceived conformity among students* and the extent to which *students are "treated like numbers in a book."*
- On the other hand, full-time faculty respondents from the peer comparison group judged three attributes to be more characteristic of their institutions than did similar respondents at Georgia Tech: *perceived respect of faculty for each other; ease of seeing faculty outside of office hours; and the extent to which faculty are rewarded for being good teachers.*

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Use of information technology [\(click here\)](#)

- An overwhelming majority of both groups of respondents *used e-mail to communicate* on a daily basis, and just under half of both groups *conducted research on the Internet* at least 2-3 times per week. Both groups were similarly disinclined to *use online discussion groups*. *Computer usage for writing memos and letters and computer usage for creating presentations* was also similar across groups.
- Responding faculty at GT were more likely to *use a computer to conduct data analysis* and *use a computer to conduct scholarly research* at least 2-3 times per week than were their counterparts in the peer comparison group.
- Responding Georgia Tech faculty were considerably less inclined to *work from home* than their counterparts in the peer comparison group.

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Optional GT questions concerning use of information technology [\(click here\)](#)

- About a third of respondents reported *using MS Powerpoint* in their classroom presentations, *using instructional software specific to a discipline*, or *using software in their courses that they or a colleague had developed*.
- Use of *commercial software for professional applications* was somewhat more common, but faculty use of *an electronic forum for group discussions or collaborative activities* was scarce.
- In terms of *placing materials online*, the majority of faculty respondents had taught no courses in the past two years where at

least 25 percent of the materials were online. At the other end of the spectrum, over 14 percent of respondents indicated they had taught 3 or more courses where at least 25 percent of the materials were online.

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Optional GT questions concerning faculty activities [\(click here\)](#)

- In terms of *delivering invited lectures and presentations at conferences within their respective disciplines*, responding faculty at Georgia Tech showed a high level of activity.
- The modal number of *external grants and contracts* awarded over the past 2 years was "1-2".
- Fairly low frequency of activity was reported on *number of graduates and postdocs supported with research funds, number of doctorates graduated over the last two years, contracting with an external client in the past 2 years to develop a new technological application, and developing new courses (apart from semester conversion)*.
- Frequency of *external consultation* over the past two years showed a broad distribution in response from "not at all" to "over 10 times."

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Optional GT questions concerning general issues at Tech [\(click here\)](#)

- The chief findings in this series of questions were that a majority of responding faculty found the *mix between expectations for research and teaching* to be appropriate at GT, and about two-thirds felt that Georgia Tech's *intellectual property policy* had been either no hindrance or only a slight hindrance to their research effort over the past two years. Results were more mixed with regard to faculty participation in interdisciplinary research.
- Areas of greatest concern cited at GT included *teaching and research space* and *teaching loads*.

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1998 HERI Faculty Survey Results

Introduction

In October 1998, Georgia Tech participated in the 1998 UCLA Higher Education Research Institute (HERI) faculty survey. This survey is conducted every three years, and is designed to afford higher education researchers a glimpse of faculty issues on a nationwide scale. In 1998, over 430 institutions participated in the survey nationwide; several of these institutions are peer institutions for Georgia Tech. This report describes information on characteristics and attitudes of two groups of faculty members at 1) Georgia Tech and 2) a comparison group of six peer institutions of Georgia Tech that also participated in the survey (Stanford University, Johns Hopkins University, MIT, Carnegie-Mellon University, Cal Tech, and Virginia Tech). These institutions were chosen for the comparison group based on selectivity, mission, size, and level and type of programs offered. Results of 20 additional questions specific to Georgia Tech are also included. This report will be useful to compare faculty characteristics and attitudes by gender within Georgia Tech and to compare Georgia Tech data with participating peer institutions.

The results for the selected peer comparison group were based on 746 full-time undergraduate faculty responses. Of the 785 Georgia Tech faculty surveyed, 262 responded. This represents a 33 percent response rate. Chi-square tests for generalizability revealed significant differences between the surveyed population and the obtained sample at the $p < .01$ level by faculty rank and by department

(school) of current appointment. The group of Georgia Tech respondents used in this report for comparison to other institutions is limited to the 124 full-time faculty respondents who teach at least one undergraduate course. The practical effect of the low response rate and differences found between population and obtained sample is that while the findings of this survey from Georgia Tech may be compared to the results of the comparison institutions, they cannot be generalized to the larger population of interest at Georgia Tech.

In contrast, survey response by gender within college roughly mirrored the response distribution of the sample. See Table 1 for details.

Table 1. Percentage distribution of the faculty population, all GT respondents, and full-time undergraduate faculty respondents.

	Population			All GT Respondents			Full-Time Undergrad.		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
	(n=596)	(n=94)	(n=690)	(n=203)	(n=37)	(n=240)	(n=96)	(n=22)	(n=118)
College									
Architecture	81.3	18.7	7.0	80.0	20.0	6.3	66.7	33.3	5.1
Computing	87.2	12.8	5.7	63.6	36.4	4.6	75.0	25.0	3.4
Engineering	91.8	8.2	44.3	88.8	11.2	48.3	86.5	13.5	44.1
Ivan Allen	70.0	30.0	15.9	71.4	28.6	17.5	64.3	35.7	23.7
Management	84.4	15.6	6.5	100.0	0.0	4.2	100.0	0.0	5.1
Sciences	89.4	10.6	20.6	89.1	10.9	19.2	90.9	9.1	18.6
Total	86.4	13.6	100.0	84.6	15.4	100.0	81.4	18.6	100.0

Note: Numbers given reflect only those faculty for whom gender information was available.

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Demographic Characteristics

This section of the report describes demographic characteristics of survey respondents at 1) the set of peer comparison institutions and 2) Georgia Tech. Table 2 shows gender, age, academic rank, and racial background of the two groups.

By gender, a substantial difference in response is evident between Georgia Tech and the peer comparison group. Among full-time faculty respondents at Georgia Tech, approximately 81 percent were male and 19 percent were female. Among full-time faculty respondents in the peer comparison group, approximately 71 percent were male and 29 percent were female.

By age, full-time faculty respondents at Georgia Tech tended to be slightly younger than their counterparts within the peer comparison group. Some 28 percent of full-time faculty respondents at Georgia Tech were under the age of 40; approximately 57 percent were between 40 and 59; and 15 percent were 60 or older. Within the peer comparison group, roughly 22 percent of the full-time faculty respondents were under the age of 40; nearly 59 percent were between 41 and 59; and about 19 percent were over 60.

With regard to academic rank, the full-time faculty respondents at Georgia Tech were more likely to be full or associate professors than were faculty within the peer comparison group. Nearly 75 percent of full-time faculty respondents at Georgia Tech were either professors or associate professors. Within the peer comparison group, slightly less than 70 percent classified themselves as professors or associate professors.

By race, responding full-time faculty members at Georgia Tech were overwhelmingly white (88 percent) as they were within the comparison group (92 percent). However, Georgia Tech had a larger proportion of Asian American/Asian respondents (10 percent) than within the peer comparison group (5 percent).

Selected other demographic findings within Georgia Tech

- Age of respondents differed by gender. Female respondents were younger than male respondents (42 percent of females vs. 25 percent of males were between 30 and 39).
- Male respondents were more likely than female respondents to be either full or associate professors (79 percent of men vs. 58 percent of women).

Table 2. Frequency distribution of full-time faculty respondents at Georgia Tech and peer

Full-time Faculty Respondents	# Respondents	Peer Comparison Group			# Respondents	Georgia Tech		
		Men	Women	Total		Men	Women	Total
Number of Respondents	746	71.2	28.8	100.0	124	80.6	19.4	100.0
Age as of December 31, 1998	743				123			
less than 30		1.3	2.8	1.7		0.0	0.0	0.0
30 to 34		5.7	8.8	6.6		6.1	25.0	9.8
35 to 39		11.6	20.0	14.0		19.2	16.7	18.7
40 to 44		12.5	16.7	13.7		16.2	8.3	14.6
45 to 49		11.0	16.3	12.5		14.1	8.3	13.0
50 to 54		17.8	16.3	17.4		13.1	25.0	15.4
55 to 59		16.3	11.2	14.8		15.2	8.3	13.8
60 to 64		14.8	3.7	11.6		11.1	8.3	10.6

65 to 69		7.0	2.8	5.8		4.0	0.0	3.3
70 or more		2.1	1.4	1.9		1.0	0.0	0.8
Academic Rank	741							
professor		55.4	23.4	46.2		46.0	20.8	41.1
associate professor		23.7	22.4	23.3		33.0	37.5	33.9
assistant professor		11.8	22.0	14.7		19.0	37.5	22.6
lecturer		5.3	20.6	9.7		0.0	0.0	0.0
instructor		2.7	10.3	4.9		1.0	4.2	1.6
other		1.1	1.4	1.2		1.0	0.0	0.8
Racial Background (1)	732							
White/Caucasian		91.9	90.5	91.5		87.6	87.5	87.6
African American/Black		2.1	1.4	1.9		0.0	0.0	0.0
American Indian		0.4	0.5	0.4		1.0	0.0	0.8
Asian American/Asian		4.4	6.6	5.1		10.3	8.3	9.9
Mexican American/Chicano		1.0	0.9	1.0		0.0	0.0	0.0
Puerto Rican American		0.0	0.0	0.0		0.0	0.0	0.0
other Latino		1.2	1.4	1.2		2.1	8.3	3.3
other		1.3	1.9	1.5		4.1	0.0	3.3

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Educational Characteristics

This section of the report describes the educational characteristics of full-time faculty respondents at Georgia Tech and within the peer comparison group. Table 3 displays faculty members' responses to questions concerning highest degree earned, field of highest degree, and department (school) of current faculty appointment.

Ninety-two percent of responding full-time faculty members at Georgia Tech and 83 percent of those within the peer comparison reported holding a Ph.D. While nearly 11 percent of responding faculty in the peer comparison group reported a master's as their highest degree earned, slightly under 5 percent of responding faculty at Georgia Tech reported holding a master's as their highest degree. In terms of discipline of highest degree earned, contrasts between full-time faculty respondents at Georgia Tech and the peer comparison group were notable. Engineering was the most frequently cited discipline area for respondents from Georgia Tech as it was for respondents from the peer comparison group -- but it was far more frequently cited by GT respondents than by respondents in the peer comparison group (38 percent vs. 17 percent). Physical sciences was cited as the field of highest degree by a little over 12 percent of faculty respondents in the peer comparison group, and by 10 percent of Georgia Tech faculty respondents. Humanities was more frequently cited as the field of highest degree by 11 percent of peer group faculty respondents, but only by 7 percent of GT faculty respondents. Social sciences was given as the

field of highest degree by about equal numbers of GT and peer group faculty respondents (10 percent). Math/statistics was given as the field of highest degree by 9 percent of Georgia Tech full-time faculty respondents, but only by 6 percent of analogous peer group respondents.

In viewing the makeup of respondents in terms of department (school) of current appointment, the contrast between Georgia Tech full-time faculty respondents and analogous comparison group respondents is even more notable. Forty-three percent of full-time faculty respondents at GT reported being in engineering, in contrast to only 18 percent of peer comparison group respondents. About 12 percent of full-time faculty peer comparison group respondents have current appointments in the humanities, whereas only 7 percent of GT respondents have such appointments. Nearly 10 percent of full-time faculty peer comparison group respondents have current appointments in the physical sciences, in contrast to 7 percent of similar GT respondents.

Table 3. Frequency distributions of Georgia Tech and peer comparison group institutions in terms of faculty educational characteristics and current appointment.

Full-time Faculty Respondents	# Respondents	Peer Comparison Group			# Respondents	Georgia Tech		
		Men	Women	Total		Men	Women	Total
Highest Degree Earned	740				124			
bachelor's (B.A., B.S., etc.)		0.6	1.4	0.8		0.0	0.0	0.0
master's (M.A., M.S., etc.)		7.2	19.8	10.9		4.0	8.3	4.8
LL.B., J.D.		0.6	0.0	0.4		0.0	0.0	0.0
M.D., D.D.S. (or equivalent)		0.0	0.0	0.0		1.0	0.0	0.8
other first professional		0.6	1.4	0.8		1.0	0.0	0.8
Ed.D.		0.6	1.4	0.8		1.0	0.0	0.8
Ph.D.		88.4	70.3	83.2		92.0	91.7	91.9
other degree		1.5	4.7	2.4		1.0	0.0	0.8
none		0.6	0.9	0.7		0.0	0.0	0.0
Field of Highest Degree	703				120			
agriculture or forestry		4.6	0.5	3.4		0.0	0.0	0.0
biological sciences		7.0	3.9	6.1		2.1	0.0	1.7
business		3.2	1.5	2.7		4.1	0.0	3.3
education		1.6	8.8	3.7		3.1	4.3	3.3
engineering		21.2	5.4	16.6		40.2	26.1	37.5
English		4.8	10.3	6.4		5.2	17.4	7.5
health related		0.2	2.0	0.7		0.0	0.0	0.0
history or political science		7.6	9.3	8.1		6.2	0.0	5.0
humanities		8.4	17.6	11.1		4.1	17.4	6.7
fine arts		7.0	13.7	9.0		3.1	4.3	3.3
mathematics or statistics		6.4	4.9	6.0		11.3	0.0	9.2

physical sciences		15.4	4.9	12.4		10.3	8.7	10.0
social sciences		8.8	12.3	9.8		8.2	17.4	10.0
other technical		1.4	0.5	1.1		0.0	0.0	0.0
other non-technical		2.2	4.4	2.8		2.1	4.3	2.5
Department of Current Faculty Appointment	697				121			
agriculture or forestry		5.9	2.5	4.9		0.0	0.0	0.0
biological sciences		5.7	1.5	4.4		2.0	0.0	1.7
business		4.9	2.5	4.2		6.1	0.0	5.0
education		1.4	4.4	2.3		1.0	0.0	0.8
engineering		23.1	5.9	18.1		45.9	30.4	43.0
English		5.1	8.9	6.2		4.1	21.7	7.4
health related		0.6	2.0	1.0		1.0	0.0	0.8
history or political science		7.9	9.4	8.3		6.1	0.0	5.0
humanities		8.5	21.7	12.3		5.1	13.0	6.6
fine arts		7.9	13.8	9.6		4.1	8.7	5.0
mathematics or statistics		4.9	4.4	4.7		7.1	0.0	5.8
physical sciences		12.1	4.4	9.9		7.1	4.3	6.6
social sciences		6.7	11.3	8.0		5.1	13.0	6.6
other technical		2.8	1.5	2.4		3.1	4.3	3.3
other non-technical		2.6	5.9	3.6		2.0	4.3	2.5

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Scholarly and Teaching Activities

This section of the report describes the scholarly and teaching activities reported by survey respondents. Comparisons are drawn between activities reported by responding full-time Georgia Tech faculty and similar faculty members at peer comparison group institutions. Results are displayed in Table 4.

Scholarly activity

In terms of articles published in academic or professional journals, full-time faculty respondents from Georgia Tech were more likely to have published over 10 articles than were their counterparts in the peer comparison group (73 percent for GT respondents vs. 61 percent for the peer comparison group). As far as published chapters in edited volumes is concerned, both groups reported about equal activity. Forty-eight percent of responding full-time GT faculty vs. 50 percent of similar peer comparison group respondents had published 3 or more chapters. In terms of books, manuals, or monographs, full-time faculty respondents at Georgia Tech reported publishing slightly less than their counterparts in the peer comparison group. For example, 22 percent of responding GT faculty reported publishing 3 or more, whereas 27 percent of similar peer comparison group respondents reported the same level of activity on this front. Overall, full-time faculty respondents at Georgia Tech reported greater

levels of scholarly activity in total professional writings published or accepted for publication in the last two years than did their counterparts within the peer comparison group. Forty-eight percent of GT faculty respondents indicated that they had published or had received acceptance for publication 5 or more writings during this period. This contrasts with 39 percent of responding full-time faculty members in the peer comparison group reporting the same level of overall publishing activity.

Table 4. Frequency distribution of Georgia Tech and peer comparison group in terms of faculty scholarly and teaching activities.

Full-time Faculty Respondents	# Respondents	Peer Comparison Group			# Respondents	Georgia Tech		
		Men	Women	Total		Men	Women	Total
NUMBER OF:								
Articles in Academic or Professional Journals	730				124			
none		4.2	15.5	7.4		5.0	12.5	6.5
1 to 2		6.3	15.5	8.9		1.0	8.3	2.4
3 to 4		5.2	14.5	7.8		6.0	4.2	5.6
5 to 10		14.5	17.4	15.3		8.0	33.3	12.9
11 to 20		13.2	13.5	13.3		25.0	20.8	24.2
21 to 50		25.6	16.9	23.2		29.0	16.7	26.6
51 +		31.0	6.8	24.		26.0	4.2	21.8
Chapters in Edited Volumes	710				118			
none		21.7	35.7	25.6		21.3	25.0	22.0
1 to 2		22.7	29.6	24.6		27.7	37.5	29.7
3 to 4		18.6	12.1	16.8		23.4	20.8	22.9
5 to 10		19.2	15.1	18.0		18.1	4.2	15.3
11 to 20		10.2	5.5	8.9		8.5	12.5	9.3
21 to 50		6.1	2.0	4.9		1.1	0.0	0.8
51 +		1.6	0.0	1.1		0	0.0	0.0
Books, Manuals, Monographs	705				120			
none		36.7	51.0	40.7		52.1	50.0	51.7
1 to 2		33.8	29.6	32.6		26.0	29.2	26.7
3 to 4		13.4	14.8	13.8		11.5	12.5	11.7
5 to 10		12.2	2.6	9.5		8.3	0.0	6.7
11 to 20		2.6	1.5	2.3		2.1	8.3	3.3
21 to 50		1.0	0.0	0.7		0.0	0.0	0.0
51 +		0.4	0.5	0.4		0.0	0.0	0.0
Professional Writings Published or Accepted for Publication in the Last Two Years	732				123			

none		12.2	23.7	15.4		6.1	16.7	8.1
1 to 2		15.2	27.1	18.6		13.1	25.0	15.4
3 to 4		27.2	26.6	27.0		31.3	16.7	28.5
5 to 10		30.9	16.9	26.9		37.4	37.5	37.4
11 to 20		11.0	3.4	8.9		10.1	4.2	8.9
21 to 50		3.2	2.4	3.0		2.0	0.0	1.6
51 +		0.2	0.0	0.1		0.0	0.0	0.0

Courses taught in the last two years

Faculty were asked several questions related to their teaching activities over the past two years. Findings are set out below in Table 5.

- In terms of general education courses taught, 90 percent of both full-time faculty respondents at GT and in the peer comparison group reported teaching either none or only one course.
- Comparatively similar percentages of respondents at GT and within the peer comparison group reporting teaching one, two, and three or more other BA/BS undergraduate courses.
- In terms of graduate courses taught, responding full-time Georgia Tech faculty reported teaching one or more graduate courses at a lower frequency than did responding faculty within the peer comparison group (50 percent at GT vs. 63 percent in the peer comparison group).

Within Georgia Tech, the following differences and similarities by gender (not displayed in Table 5) were found:

- A higher overall proportion of female respondents (27 percent) taught general education courses than did male respondents (16 percent).
- A similar proportion of male and female respondents taught 1-2 other undergraduate courses (61 percent of males; 66 percent of females).
- Male respondents were more likely to teach one or more graduate courses than were female respondents (54 percent versus 40 percent).

Table 5. Frequency distribution of Georgia Tech and peer comparison group in terms of courses taught.

Full-time Faculty Respondents	# Respondents	Peer Comparison Group			# Respondents	Georgia Tech		
		Men	Women	Total		Men	Women	Total
COURSES TAUGHT IN:								
General Education	444				78			
none		68.0	68.1	68.0		74.6	53.3	70.5
one		24.0	17.4	21.8		15.9	33.3	19.2
two		6.3	8.3	7.0		4.8	13.3	6.4
three		1.3	3.5	2.0		4.8	0.0	3.8

four		0.3	0.7	0.5		0.0	0.0	0.0
five or more		0.0	2.1	0.7		0.0	0.0	0.0
Other BA or BS Undergraduate Credit Courses	683				114			
none		6.9	3.7	6.0		4.3	4.5	4.4
one		58.7	42.9	54.3		53.3	81.8	58.8
two		24.9	33.9	27.4		29.3	4.5	24.6
three		7.1	12.7	8.6		12.0	9.1	11.4
four		1.2	4.2	2.0		1.1	0.0	0.9
five or more		1.2	2.6	1.6		0.0	0.0	0.0
Graduate Courses	543				93			
none		33.9	44.2	36.8		47.9	60.0	50.5
one		60.2	50.0	57.3		46.6	25.0	41.9
two		5.4	4.5	5.2		5.5	10.0	6.5
three		0.5	1.3	0.7		0.0	0.0	0.0
four		0.0	0.0	0.0		0.0	5.0	1.1
five or more		0.0	0.0	0.0		0.0	0.0	0.0

Teaching activities in the last two years

Faculty were asked to provide information on whether or not they had engaged in a number of different activities over the last two years (primarily connected with teaching responsibilities). Details are provided below in Table 6. Findings include the following:

- Responding full-time faculty in the peer comparison group taught an honors course more frequently than did responding full-time Georgia Tech faculty (26 percent vs. 10 percent). Given that Georgia Tech has few honors courses, this finding is not surprising.
- Interdisciplinary courses were taught by over 50 percent of responding faculty within Georgia Tech and the peer comparison group.
- Courses were team-taught by a higher proportion of responding full-time faculty within the peer comparison group than by responding Georgia Tech faculty (53 percent versus 45 percent).
- Service learning courses were taught by a higher proportion of responding full-time Georgia Tech faculty (29 percent) than by similar faculty within the peer comparison group (23 percent).
- A similarly high proportion of responding full-time Georgia Tech faculty and peer comparison group faculty reported working with students on a research project (88 percent).
- In a somewhat out-of-place item, a slightly higher proportion of responding full-time Georgia Tech faculty reported using intra- or extra-mural funds for research than was the case among respondents from the peer comparison group (79 percent for Georgia Tech vs. 74 percent for the peer comparison group).

- Participation in teaching enhancement workshops was lower among responding full-time Georgia Tech faculty than among respondents from the peer comparison group (42 percent vs. 51 percent).
- In terms of using the Internet, the responses gained from Georgia Tech faculty were strikingly similar to responses from faculty in the peer comparison group. About 55 percent of both groups reported placing or collecting information for a course on the Internet, and about 2 percent of both groups indicated that they had taught a course exclusively on the Internet.

Table 6. Frequency distribution of Georgia Tech and peer comparison group in terms of teaching and related activities undertaken in the last two years.

Full-time Faculty Respondents	# Respondents	Peer Comparison Group			# Respondents	Georgia Tech		
		Men	Women	Total		Men	Women	Total
Teaching Activities in the Last Two Years								
worked with students on research project	715	90.6	80.4	87.7	117	88.5	85.7	88.0
used intra- or extramural funds for research	690	76.0	67.0	73.5	116	79.6	78.3	79.3
taught an interdisciplinary course	680	52.3	53.6	52.6	116	52.1	68.2	55.2
placed or collected assignments for a course on the Internet	669	56.5	53.8	55.8	116	53.2	63.6	55.2
team-taught a course	681	54.7	49.2	53.2	115	45.7	43.5	45.2
participated in a teaching enhancement workshop	660	47.6	57.7	50.6	118	38.3	58.3	42.4
taught a service learning course	642	22.6	22.6	22.6	110	25.0	45.5	29.1
taught an honors course	668	26.1	24.3	25.6	112	11.0	4.8	9.8
taught a women's studies course	635	2.5	20.6	7.9	113	2.2	22.7	6.2
taught an ethnic studies course	637	5.7	8.7	6.6	112	3.3	0.0	2.7
taught a course exclusively through the Internet	637	2.2	1.6	2.0	113	1.1	4.5	1.8

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Instructional Techniques and Evaluation Methods Used

This section of the report describes the various instructional methods and modes of evaluation used by responding full-time faculty members at Georgia Tech and in the peer comparison group. Details are provided in Tables 7 and 8.

Instructional techniques used

Faculty were asked to indicate in how many of their undergraduate courses they used various instructional techniques. Responses of "all" or "most" were

aggregated, and are reported below in Table 7. Findings from this analysis include the following:

- Full-time faculty respondents from Georgia Tech were more likely than similar respondents in the peer comparison group to use *extensive lecturing* in most or all undergraduate classes (67 percent vs. 57 percent), as well as using *computer/machine aided instruction* somewhat more frequently (19 percent vs. 17 percent).
- On the other hand, respondents from the peer comparison group reported using a number of instructional methods more frequently than did full-time faculty respondents at Georgia Tech. These methods included *class discussions, group projects, cooperative learning, independent projects, recitals or demonstrations, multiple drafts of written work, student-developed activities, experiential learning/field studies, and student-selected topics*.
- Full-time faculty respondents from the peer comparison group also reported using *readings on women/gender* and *racial/ethnic issues* more frequently than did similar responding faculty from Georgia Tech.

Table 7. Frequency distribution of instructional techniques used by responding full-time faculty at Georgia Tech and peer comparison group institutions.

Full-time Faculty Respondents	# Respondents	Peer Comparison Group			# Respondents	Georgia Tech		
		Men	Women	Total		Men	Women	Total
Instructional Methods Used in Most/All Undergraduate Classes								
extensive lecturing	727	64.6	37.1	56.7	120	69.8	54.2	66.7
class discussions	726	52.9	74.8	59.2	122	45.9	58.3	48.4
group projects	728	22.4	27.1	23.8	121	18.6	37.5	22.3
teaching assistants	729	36.7	22.7	32.6	122	19.4	25.0	20.5
computer/machine-aided instruct	727	17.2	17.5	17.3	121	17.5	25.0	19.0
cooperative learning	727	24.0	41.2	29.0	121	13.4	41.7	19.0
independent projects	727	29.1	37.4	31.5	121	11.3	41.7	17.4
recitals or demonstrations	727	24.0	22.3	23.5	121	8.2	33.3	13.2
multiple drafts of written work	726	16.5	31.4	20.8	119	11.6	12.5	11.8
readings on women/gender issues	727	7.9	28.9	14.0	119	7.4	25.0	10.9
student-developed activities	725	10.1	13.8	11.2	120	7.3	16.7	9.2
readings on racial/ethnic issues	728	7.0	24.2	12.0	119	6.3	12.5	7.6
experiential learning/field studies	726	14.3	19.6	15.8	121	6.2	8.3	6.6
student-selected topics	725	6.8	11.4	8.1	119	2.1	0.0	1.7

Evaluation methods used

Faculty were asked to indicate in how many of their undergraduate courses they used various evaluation techniques (all, most, some, or none). Responses of "all" or "most" were aggregated, and are reported below in Table 8. Findings from this analysis include the following:

- With both responding full-time Georgia Tech faculty and similar respondents in the peer comparison group, the most frequently used instructional evaluation method was *competency-based grading*, although the vagueness of the wording of this item lends itself to interpretational difficulties. Respondents in the peer comparison group reported using this method more frequently in most or all of their undergraduate classes than did similar Georgia Tech respondents (49 percent vs. 44 percent).
- *Quizzes* and *grading on a curve* were used more frequently by responding full-time Georgia Tech faculty than by similar respondents in the peer comparison group (quizzes: 39 percent vs. 30 percent; grading on a curve: 35 percent vs. 29 percent).
- Most other evaluation methods, especially those that involve the evaluation of a written student product, were used more frequently by full-time faculty respondents in the peer comparison group than by similar Georgia Tech respondents. These include *short-answer mid-terms/finals*, *essay mid-terms/finals*, *term/research papers*, *student presentations*, *weekly essay assignments*, and *student evaluations of each others' work*. *Multiple choice mid-terms/finals* were also used more frequently by peer comparison group respondents than by those at Georgia Tech.

Within Georgia Tech, many gender-based differences were found in faculty response. To an extent, these may reflect the different disciplines represented.

- 44 percent of respondents used *competency-based grading*: 47% of males; 33% of females.
- 39 percent of respondents used *quizzes*; 38% of males and 46% of females.
- 35 percent of respondents used *grading on a curve*: 39% of males; 17% of females.
- 34 percent of respondents used *short-answer mid-terms/finals*; 35% of males; 30% of females.
- 29 percent of respondents used *essay mid-terms/finals*: 25% of males and 46% of females.
- 22 percent of respondents used *term/research papers*: 21% males, 25% of females.
- 18 percent of respondents used *student presentations*: 11% of males; 46% of females.
- 12 percent of respondents used *weekly essay assignments*: 10% of males; 21% of females.

Table 8. Frequency distribution of evaluation methods used by responding full-time faculty at Georgia Tech and peer comparison group institutions.

Full-time Faculty Respondents	# Respondents	Peer Comparison Group			# Respondents	Georgia Tech		
		Men	Women	Total		Men	Women	Total
Evaluation Methods Used in Most or all Undergraduate Classes								
competency-based grading	693	48.2	51.8	49.2	114	46.7	33.3	43.9
quizzes	725	32.2	24.9	30.1	122	37.8	45.8	39.3
grading on a curve	726	32.9	19.6	29.1	121	39.2	16.7	34.7
short-answer mid-terms/finals	720	38.2	31.1	36.1	118	34.7	30.4	33.9
essay mid-terms/finals	725	37.7	44.5	39.7	123	25.3	45.8	29.3
term/research papers	724	37.6	44.1	39.5	121	20.6	25.0	21.5
student presentations	729	27.2	46.2	32.6	122	11.2	45.8	18.0
weekly essay assignments	721	21.2	26.9	22.9	121	10.3	20.8	12.4
multiple-choice mid-terms/finals	724	14.4	12.4	13.8	123	10.1	8.3	9.8
student evals of each others' work	726	8.5	15.8	10.6	121	5.2	20.8	8.3

Within College Analysis

Limitations in the obtained sample size precluded within-college analysis by gender on teaching and evaluation methods used by GT faculty respondents for all but two colleges at GT: Engineering and Ivan Allen. Results for these two colleges are detailed in Table 9 and Table 10. Due to the sample size, all respondents within each college were used for these analyses. Significance tests using the Wilcoxon rank score test revealed one significant difference by gender in teaching and evaluation methods used within the College of Engineering and five such differences within the Ivan Allen College.

Table 9. Frequency distribution of teaching and evaluation methods used by responding full-time faculty in the College of Engineering.

All Engineering Respondents	n	Men	Women	Total
		(n=103)	(n=13)	(n=116)
Instructional Methods Used in Most/All Undergraduate Classes				
extensive lecturing	111	83.7	92.3	84.7
class discussions	112	34.3	46.2	35.7
group projects	111	25.5	38.5	27.0
teaching assistants	111	24.5	53.9	27.9
computer/machine-aided instruct	112	18.2	38.5	*20.5
cooperative learning	112	18.2	46.2	21.4
independent projects	111	15.3	23.1	16.2
recitals or demonstrations	111	14.3	38.5	17.1
multiple drafts of written work	105	4.3	8.3	4.8

readings on women/gender issues	110	0.0	0.0	0.0
student-developed activities	110	10.3	23.1	11.8
readings on racial/ethnic issues	110	0.0	0.0	0.0
experiential learning/field studies	112	11.1	15.4	11.6
student-selected topics	109	1.0	0.0	0.9
Evaluation Methods Used in Most or all Undergraduate Classes				
competency-based grading	102	53.3	58.3	53.9
quizzes	112	40.4	30.8	39.3
grading on a curve	112	56.6	46.2	55.4
short-answer mid-terms/finals	110	37.8	41.7	38.2
essay mid-terms/finals	112	13.1	15.4	13.4
term/research papers	112	17.2	23.1	17.9
student presentations	112	15.2	46.2	18.8
weekly essay assignments	112	14.1	15.4	14.3
multiple-choice mid-terms/finals	112	3.0	7.7	3.6
student evals of each others' work	112	7.1	30.8	9.8

*significant difference by gender at $p < 0.5$ (Wilcoxon rank score test)

Table 10. Frequency distribution of teaching and evaluation methods used by responding full-time faculty in the Ivan Allen College.

All Ivan Allen Respondents	n	Men	Women	Total
		(n=30)	(n=12)	(n=42)
Instructional Methods Used in Most/All Undergraduate Classes				
extensive lecturing	41	51.7	16.7	*41.5
class discussions	41	86.2	83.3	85.4
group projects	41	6.9	41.7	*17.1
teaching assistants	41	0.0	8.3	2.4
computer/machine-aided instruct	40	21.4	16.7	20.0
cooperative learning	41	13.8	41.7	22.0
independent projects	41	24.1	50.0	*31.7
recitals or demonstrations	41	3.5	8.3	4.9
multiple drafts of written work	41	27.6	25.0	26.8
readings on women/gender issues	41	31.0	41.7	34.2
student-developed activities	41	3.5	25.0	9.8
readings on racial/ethnic issues	41	34.5	25.0	31.7
experiential learning/field	41	3.5	8.3	4.9

studies				
student-selected topics	41	10.3	0.0	7.3
Evaluation Methods Used in Most or all Undergraduate Classes				
competency-based grading	40	42.9	25.0	37.5
quizzes	41	17.2	33.3	22.0
grading on a curve	41	13.8	8.3	12.2
short-answer mid-terms/finals	41	27.6	25.0	26.8
essay mid-terms/finals	41	55.2	50.0	53.7
term/research papers	41	37.8	41.7	39.0
student presentations	41	27.6	33.3	29.3
weekly essay assignments	41	13.8	16.7	14.6
multiple-choice mid-terms/finals	41	10.3	0.0	*7.3
student evals of each others' work	41	6.9	25.0	*12.2

* significant difference by gender at $p < .05$ (Wilcoxon rank score test)

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Faculty Attitudes

A major area of questions on the HERI faculty survey dealt with faculty attitudes: goals they felt were important for undergraduates, issues they considered to be a priority, and attributes of their institutions. Findings from these questions are presented in Tables 11, 12, and 13.

Goals for undergraduates

This section of the survey asked faculty to respond to a series of questions concerning their perception of the importance of a series of goals for undergraduate education. The percentages of respondents indicating that a particular goal was either very important or essential were combined for this analysis. Findings are detailed in Table 11. While some similarities were evident in the responses between full-time GT faculty and similar faculty members at peer institutions, a great many differences were also uncovered. Highlights include:

- Fully one hundred percent of full-time faculty respondents at GT and virtually 100 percent of similar respondents within peer group institutions indicated that the most important goal for undergraduates was *developing the ability to think clearly*.
- For responding full-time faculty at Georgia Tech, the next most important goal was *preparation for employment*. This was far more frequently cited as a very important or essential goal by responding GT faculty than by similar faculty in the peer comparison group (79 percent at GT vs. 58 percent in the peer comparison group).

- *Preparing for graduate education* was cited as an important goal with similar frequency by full-time GT faculty respondents and those in the peer comparison group (58 percent).
- All other listed goals were more frequently cited as very important or essential by responding full-time faculty in the peer comparison group than by responding full-time Georgia Tech faculty. These goals included
 - *enhancing self-understanding,*
 - *preparing for responsible citizenship,*
 - *helping develop personal values,*
 - *developing moral character,*
 - *enhancing appreciation of other racial/ethnic groups,*
 - *enhancing out-of-class experiences,*
 - *teaching the classics of western civilization,*
 - *instilling a commitment to community service,*
 - *providing for emotional development, and*
 - *preparing for family living.*

Table 11. Frequency distribution of responses to questions concerning the importance of goals for undergraduate education by responding full-time faculty at Georgia Tech and peer comparison group institutions.

Full-time Faculty Respondents	# Respondents	Peer Comparison Group			# Respondents	Georgia Tech		
		Men	Women	Total		Men	Women	Total
Goals for Undergraduate Noted as Very Important or Essential								
develop ability to think clearly	736	99.6	100.0	99.7	123	100.0	100.0	100.0
prepare for employment	733	58.1	58.2	58.1	122	77.6	83.3	78.7
prepare for graduate education	733	59.8	54.5	58.3	122	58.2	58.3	58.2
enhance self-understanding	728	49.1	57.3	51.5	119	38.9	58.3	42.9
prepare for responsible citizenship	725	48.4	60.7	52.0	117	37.6	54.2	41.0
help develop personal values	730	49.2	56.6	51.4	119	32.6	50.0	36.1
develop moral character	733	47.2	53.3	49.0	120	32.3	50.0	35.8
enhance appreciation of racial/ethnic groups	729	36.6	59.9	43.3	119	23.2	62.5	31.1
enhance out-of-class experience	727	29.6	41.0	32.9	119	24.2	41.7	27.7
teach classics of western civilization	722	25.6	26.7	25.9	118	13.8	37.5	18.6
instill commitment to community service	730	22.4	34.0	25.8	118	15.8	21.7	16.9
provide for emotional development	728	25.1	37.6	28.7	120	9.4	29.2	13.3
prepare for family living	727	7.4	11.4	8.5	120	3.1	12.5	5.0

Priority issues

Faculty were asked a series of questions concerning the relative priority of a number of issues for their institutions. Details of findings are presented in Table 12. Highlights include the following:

- For both full-time Georgia Tech faculty respondents and similar respondents in peer comparison group institutions, the three issues by far most frequently noted as being of high priority were:
 - *enhance the institution's national image,*
 - *increase/maintain the institution's prestige, and*
 - *promote intellectual development.*

- *Hiring faculty 'stars'* was rated as a high priority issue by a somewhat greater percentage of responding full-time GT faculty than by similar respondents in the peer comparison group (69% among GT respondents vs. 60% in the peer comparison group).
- Although the rank order of priority for most issues included on this survey was similar for responding full-time GT and peer comparison group faculty, the following issues were cited as high priority by a notably greater margin (10+ percent) of peer comparison group faculty than by responding GT faculty:
 - *creating a multi-cultural environment* (51% in peer comparison group vs. 31% at GT);
 - *helping students understand values* (36% in peer comparison group vs. 16% at GT);
 - *developing community among students and faculty* (35% in peer comparison group vs. 23% at GT);
 - *involvement in community services* (24% in peer comparison group vs. 12% at GT); and
 - *teaching students how to change society* (19% in peer comparison group vs. 7% at GT).

Table 12. Percentage distribution of full-time Georgia Tech and peer comparison group faculty in terms of issues noted as being of high priority for their institution.

Full-time Faculty Respondents	# Respondents	Peer Comparison Group			# Respondents	Georgia Tech		
		Men	Women	Total		Men	Women	Total
Issues Noted as Being of High or Highest Priority								
enhance institution's national image	726	86.5	87.1	86.6	122	92.9	95.8	93.4

increase/maintain institution's prestige	728	84.0	88.1	85.2	121	89.7	91.7	90.1
promote intellectual development	733	92.5	86.9	90.9	122	82.7	79.2	82.0
hire faculty 'stars'	725	58.6	63.0	59.9	122	69.4	66.7	68.9
recruit more minority students	722	54.9	41.3	51.0	121	56.7	54.3	56.2
develop leadership ability in students	726	44.4	50.9	46.3	120	42.3	34.8	40.8
hire more minority faculty/administrators	723	44.4	37.8	42.5	121	41.2	33.3	39.7
hire more women faculty/administrators	725	47.4	30.0	42.3	121	42.3	20.8	38.0
create a multi-cultural environment	727	52.7	46.9	51.0	121	33.0	25.0	31.4
develop community among students/faculty	727	36.1	31.6	34.8	121	23.7	20.8	23.1
help students understand values	728	37.2	35.8	36.8	121	16.5	12.5	15.7
involvement in community service	723	21.4	31.4	24.3	121	10.3	20.8	12.4
teach students how to change society	723	16.4	25.7	19.1	121	5.2	16.7	7.4

Attributes characteristic of the institution

The third set of questions in the section dealing with faculty attitudes consisted of a set of statements about an institution. Faculty could select one of three response choices: *very descriptive*, *somewhat descriptive*, or *not descriptive*. In order to contrast faculty perceptions of their respective institutions, the percentage of respondents marking the statements as being very descriptive were contrasted with the percentage of respondents marking the statements as being not descriptive of their particular institution. Details are given in Table 13. The findings from this set of questions provided a number of contrasts between responding full-time GT faculty and similar faculty in the peer comparison group. This includes the following:

- While 43 percent of responding full-time faculty in the peer comparison group opined that the statement *faculty here respect each other* was very descriptive of their institutions, only 7 percent listed this statement as not descriptive. This stands in contrast to the response of full-time Georgia Tech faculty, 33 percent of whom opined that the statement was very characteristic of GT and 14 percent of whom indicated that the statement was not characteristic of Georgia Tech.
- At Georgia Tech, 30 percent of responding full-time faculty felt that the statement *there is a great deal of conformity among students* was very descriptive of the institution, whereas 13 percent thought this statement was not descriptive of GT. This contrasts sharply with the views of

responding peer comparison group faculty, of whom only 15 percent felt this statement was descriptive and 35 percent felt this statement was not descriptive of their respective institutions.

- The statement *it is easy to see faculty outside of office hours* was listed as very descriptive of their institutions by 33 percent of responding full-time faculty in the peer comparison group; 12 percent of this group thought this statement was not descriptive of their institutions. By comparison, only 18 percent of responding full-time faculty at Georgia Tech thought this statement to be descriptive of GT, and 30 percent found this statement not characteristic of the Institute.
- In another contrast, 15 percent of responding full-time GT faculty vs. 5 percent of similar peer comparison group faculty found the statement *most students are treated like "numbers in a book"* to be very descriptive of their respective institutions. However, 29 percent of GT respondents vs. 68 percent of peer comparison group respondents found the statement not characteristic of their respective institutions.
- Concerning the statement *faculty are rewarded for being good teachers*, 12 percent of full-time peer comparison group respondents vs. 3 percent of similar GT respondents found this to be descriptive of their institutions. On the other hand, 31 percent of full-time peer comparison group respondents vs. 52 percent of similar GT respondents thought the statement was not characteristic of their institutions.

Table 13. Percentage distribution of Georgia Tech and peer comparison group full-time faculty respondents on questions concerning attributes found to be descriptive or not descriptive of their institutions.

Full-time Faculty Respondents	# Respondents	Peer Comparison Group			# Respondents	Georgia Tech		
		Men	Women	Total		Men	Women	Total
Attributes Noted as Being VERY Descriptive of the Institution	-	-	-	-	-	-	-	-
Faculty here respect each other	728	48.0	31.3	43.1	123	36.4	20.8	33.3
There is a great deal of conformity among students	724	14.6	15.7	14.9	120	28.1	37.5	30.0
It is easy to see faculty outside of office hours	729	32.9	32.9	32.9	122	19.4	12.5	18.0
Intercollegiate sports are overemphasized	728	14.5	13.7	14.3	122	15.3	25.0	17.2
Most students are treated like 'numbers in a book'	729	4.8	4.8	4.8	123	13.1	25.0	15.4
The faculty are typically at odds with campus administration	725	7.4	9.1	7.9	123	13.1	0.0	10.6
Social activities are overemphasized	724	3.3	3.3	3.3	122	3.1	8.3	4.1
Faculty are rewarded for	728	12.7	8.6	11.5	122	1.0	12.5	3.3

being good teachers									
Students here do not usually socialize with one another	718	0.8	0.0	0.6	118	0.0	0.0	0.0	0.0
Attributes Noted as Being VERY Descriptive of the Institution									
Social activities are overemphasized	724	77.3	79.4	77.9	122	83.7	83.3	83.6	
Students here do not usually socialize with one another	718	76.2	76.2	76.2	118	67.0	45.8	62.7	
Faculty are rewarded for being good teachers	728	28.4	38.1	31.2	122	50.0	58.3	51.6	
Intercollegiate sports are overemphasized	728	62.0	62.3	62.1	122	46.9	37.5	45.1	
The faculty are typically at odds with campus administration	725	50.9	40.9	48.0	123	38.4	45.8	39.8	
It is easy to see faculty outside of office hours	729	11.0	14.8	12.1	122	25.5	45.8	29.5	
Most students are treated like 'numbers in a book'	729	68.4	67.1	68.0	123	29.3	29.2	29.3	
Faculty here respect each other	728	5.2	10.4	6.7	123	12.1	20.8	13.8	
There is a great deal of conformity among students	724	35.4	34.8	35.2	120	13.5	12.5	13.3	

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Information Technology Use in the Past Year

Faculty were asked to respond to a series of items concerning their usage of information technology. Details are given below in Table 14.

A number of similarities emerged in the use of information technology between responding full-time Georgia Tech faculty and their counterparts within peer comparison group institutions.

- An overwhelming majority of both groups of respondents *used e-mail to communicate* on a daily basis.
- Just under half of both groups *conducted research on the Internet* at least 2-3 times per week.
- Both groups were similarly disinclined to *use online discussion groups*. Eighty percent of responding full-time faculty in the peer comparison group used on-line discussion groups 1-2 times per month or never. Eight-three percent of responding faculty at Georgia Tech reported the same level of usage of this instructional method.
- *Computer usage for writing memos and letters* was similar across groups. Ninety-two percent of full-time faculty respondents in the peer comparison group reported writing memos/letters at least 2-3 times per week using a computer, and 94 percent of responding GT faculty reported this same level of usage.

- **Computer usage for creating presentations** was also similar across groups. Forty-five percent of both groups of responding faculty used a computer to create presentations at least 2-3 times per week.

While similarities were found, several notable differences also emerged. These are summarized below.

- Responding faculty at GT were more likely to *use a computer to conduct data analysis* at least 2-3 times per week than were their counterparts in the peer comparison group (50 percent vs. 40 percent).
- Responding faculty at GT were more likely to *use a computer to conduct scholarly research* at least 2-3 times per week than were their counterparts in the peer comparison group (85 percent vs. 78 percent).
- Responding Georgia Tech faculty were considerably less inclined to *work from home* than their counterparts in the peer comparison group. Only 47 percent of Georgia Tech faculty reported working from home at least 2-3 times per week, versus 59 percent in the peer group at this same frequency level.

Within responses from Georgia Tech, several differences were found by gender:

- Female respondents were more likely to *work from home* on a daily basis or 2-3 times per week than male respondents (58% of women vs. 42% of men).
- 50 percent of GT full-time faculty *conducted data analysis using a computer* daily or 2-3 times per week. Men were somewhat more likely to do this than women (52% vs. 39%).
- Male respondents were more likely to *create presentations using a computer* at least 2-3 times per week than were female respondents (46% vs. 39%).

Table 14. Frequency distribution of information technology use by responding full-time faculty at Georgia Tech and peer comparison group institutions.

Full-time Faculty Respondents	# Respondents	Peer Comparison Group			# Respondents	Georgia Tech		
		Men	Women	Total		Men	Women	Total
Number of Respondents	746	71.2	28.8	100.0	124	80.6	19.4	100.0
I.T. USE IN PAST YEAR:								
Communicated using e-mail	738				123			
daily		93.9	90.1	92.8		88.9	91.7	89.4
2-3 times/week		4.4	4.2	4.3		6.1	4.2	5.7

once a week		0.6	1.9	0.9		2.0	4.2	2.4
1-2 times/month		0.8	0.9	0.8		3.0	0.0	2.4
never		0.4	2.8	1.1		0.0	0.0	0.0
Conducted Research on Internet	737				123			
daily		26.1	19.2	24.2		25.3	20.8	24.4
2-3 times/week		23.3	21.6	22.8		20.2	29.2	22.0
once a week		15.5	16.9	15.9		16.2	16.7	16.3
1-2 times/month		23.3	24.9	23.7		22.2	25.0	22.8
never		11.8	17.4	13.4		16.2	8.3	14.6
Used On-line Discussion Groups	737				123			
daily		6.3	7.0	6.5		6.1	12.5	7.3
2-3 times/week		6.5	4.7	6.0		3.0	0.0	2.4
once a week		8.0	8.0	8.0		8.1	4.2	7.3
1-2 times/month		13.4	16.0	14.1		21.2	20.8	21.1
never		65.8	64.3	65.4		61.6	62.5	61.8
Worked from Home	731				123			
daily		33.9	33.5	33.8		22.2	29.2	23.6
2-3 times/week		26.0	22.2	24.9		20.2	29.2	22.0
once a week		13.5	14.2	13.7		16.2	8.3	14.6
1-2 times/month		13.7	19.3	15.3		27.3	16.7	25.2
never		12.9	10.8	12.3		14.1	16.7	14.6
Wrote Memos/Letters using a computer	737				123			
daily		78.8	70.9	76.5		84.8	79.2	83.7
2-3 times/week		15.1	18.3	16.0		8.1	16.7	9.8
once a week		3.1	6.6	4.1		3.0	0.0	2.4
1-2 times/month		1.7	1.9	1.8		2.0	4.2	2.4
never		1.3	2.3	1.6		2.0	0.0	1.6
Conducted Scholarly Research using a computer	732				123			
daily		62.3	53.3	59.7		67.7	62.5	66.7
2-3 times/week		18.6	16.2	17.9		17.2	20.8	17.9
once a week		6.1	10.5	7.4		2.0	12.5	4.1
1-2 times/month		6.5	8.6	7.1		5.1	0.0	4.1
never		6.5	11.4	7.9		8.1	4.2	7.3
Conducted Data Analysis using a computer	731				121			
daily		28.4	16.2	24.9		38.8	34.8	38.0
2-3 times/week		18.0	6.7	14.8		13.3	4.3	11.6

once a week		11.7	10.5	11.4		11.2	4.3	9.9
1-2 times/month		15.9	19.5	17.0		11.2	17.4	12.4
never		25.9	47.1	32.0		25.5	39.1	28.1
Created Presentations using a computer	734				121			
daily		26.6	24.5	26.0		31.6	30.4	31.4
2-3 times/week		20.9	15.1	19.2		14.3	8.7	13.2
once a week		17.2	10.8	15.4		21.4	17.4	20.7
1-2 times/month		21.5	30.7	24.1		20.4	34.8	23.1
never		13.8	18.9	15.3		12.2	8.7	11.6

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Optional Questions for Georgia Tech

For administration of the 1998 HERI faculty survey at Georgia Tech, a number of policy-relevant questions were appended to the main survey. These were concerned with three main areas: use of information technology, faculty activities, and general issues. Overall, response to the optional questions was quite low. Of the 262 total respondents at GT, only between 82 and 85 responded to the optional items (31-32 percent of GT respondents; 10-11 percent of the GT population surveyed). Again, caution is advised in interpreting these findings since they are not generalizable to the population of interest. Findings are detailed in Tables 15, 16, and 17.

Optional questions concerning use of information technology

This section of the optional questionnaire posed questions to faculty concerning their use of information technology in teaching. Details are presented in Table 15. Findings included:

- In terms of *placing materials online*, the majority of faculty respondents had taught no courses in the past two years where at least 25 percent of the materials were online. At the other end of the spectrum, over 14 percent of respondents indicated they had taught 3 or more courses where at least 25 percent of the materials were online.
- The vast majority of respondents reported *using email to communicate* with their students.
- A substantial majority of respondents reported not using an electronic forum for group discussions or collaborative activities.
- About one-third of respondents reported *using MS Powerpoint* in their classroom presentations.
- Approximately one-third of respondents reported *using instructional software specific to a discipline*.
- About 40 percent of respondents indicated that they *use commercial software for professional applications* in their courses.

- **Just under 30 percent of respondents indicated that they used software in their courses that they or a colleague had developed.**

Table 15. Frequency distribution of GT faculty response to optional questions concerned with usage of information technology.

Question #49: In past two years, how many courses taught where at least 25% of the materials were online	Men	Women	Total FTUG (n=84)	All Others (n=100)
none at all	60.3	50.0	58.3	54.0
1 course	11.8	31.2	15.5	11.0
2 courses	10.3	6.3	9.5	21.0
3 courses	2.9	0.0	2.4	7.0
over 3 courses	14.7	12.5	14.3	7.0
Question #50: In my courses, I am currently using E-mail to communicate individually with my students	Men	Women	Total FTUG (n=82)	All Others (n=96)
yes	95.5	100.0	96.3	90.6
no	4.5	0.0	3.7	9.4
Question #51: In my courses, I am currently using an electronic forum for group discussions or collaborative activities	Men	Women	Total FTUG (n=82)	All Others (n=96)
yes	15.2	18.7	15.9	17.7
no	84.8	81.3	84.1	82.3
Question #52: In my courses, I am currently using Powerpoint presentations	Men	Women	Total FTUG (n=82)	All Others (n=96)
yes	34.8	31.2	34.1	38.5
no	65.2	68.8	65.9	61.5
Question #53: In my courses, I am currently using instructional software specific to a discipline	Men	Women	Total FTUG (n=82)	All Others (n=96)
yes	31.8	50.0	35.4	37.5
no	68.2	50.0	64.6	62.5
Question #54: In my courses, I am currently using commercial software for professional applications	Men	Women	Total FTUG (n=82)	All Others (n=96)
yes	40.9	37.5	40.2	43.8
no	59.1	62.5	59.8	56.3
Question #55: In my courses, I am currently using software that I or a colleague have developed for the course(s)	Men	Women	Total FTUG (n=82)	All Others (n=96)
yes	25.8	43.7	29.3	21.9
no	74.2	56.2	70.7	78.1

Optional questions concerning faculty activities

The first group of optional questions was concerned with various faculty activities. Results are detailed in Table 16. Findings included the following:

- For both male and female respondents, the modal number of *external grants and contracts* awarded over the past 2 years was "1-2."
- The modal number of *graduates and postdocs supported with research funds* was low for both male and female respondents, as was the modal number of doctorates graduated over the last two years.
- Most respondents had not *contracted with an external client* in the past 2 years to develop a new technological application; of those that had, the great majority had only contracted "1-2 times" during this period.
- Frequency of *external consultation* over the past two years was fairly evenly divided by gender, and showed a broad distribution in the responses from "not at all" to "over 10 times."
- In terms of *delivering invited lectures*, the modal response was "1-2 times" over the past 2 years for male respondents, while female respondents' modal responses were either "not at all" or "3-5 times" over the last 2 years.
- Concerning *presentations at conferences within their respective disciplines*, responding faculty at Georgia Tech showed a high level of activity. Males reported a modal frequency range of "3-5 times" over the past two years, while female respondents reported an even higher modal frequency range of "6-10 times" over the past two years.
- The final question in this group concerned *developing new courses (apart from semester conversion)*. The modal response from males was "no new courses" developed, while the modal response from females was "one new course" developed over the last two years.

Table 16. Frequency distribution of GT responses to questions concerning faculty activities.

Question #40: External grants and contracts awarded in the past two years	Men	Women	Total FTUG (n=83)	All Others (n=101)
none at all	26.9	31.2	27.7	14.9
1 course	35.8	37.5	36.1	34.7
2 courses	22.4	18.7	21.7	25.7
3 courses	10.4	12.5	10.8	17.8
over 3 courses	4.5	0.0	3.6	6.9
Question #41: Estimate total external grants and contracts awards over the past two years	Men	Women	Total FTUG (n=83)	All Others (n=101)
none at all	25.4	31.2	26.5	14.9
1 course	14.9	25.0	16.9	4.0
2 courses	26.9	25.0	26.5	16.8
3 courses	31.3	18.7	28.9	52.5
over 3 courses	1.5	0.0	1.2	11.9

Question #42: Graduate and postdocs supported via research funds over the past two years	Men	Women	Total FTUG (n=83)	All Others (n=101)
none at all	34.3	56.2	38.6	18.8
1 course	25.4	6.3	21.7	18.8
2 courses	23.9	31.2	25.3	29.7
3 courses	13.4	6.3	12.0	21.8
over 3 courses	3.0	0.0	2.4	10.9
Question #43: Number of Ph.D.s graduated in last two years	Men	Women	Total FTUG (n=84)	All Others (n=101)
none at all	54.4	68.8	57.1	44.6
1 course	33.8	25.0	32.1	37.6
2 courses	10.3	6.3	9.5	17.8
3 courses	1.5	0.0	1.2	0.0
over 3 courses	0.0	0.0	0.0	0.0
Question #44: Contracted with external client to develop new technological application in past 2 years	Men	Women	Total FTUG (n=84)	All Others (n=100)
none at all	72.1	75.0	72.6	62.0
1 course	22.1	12.5	20.2	22.0
2 courses	2.9	6.3	3.6	10.0
3 courses	0.0	0.0	0.0	4.0
over 3 courses	2.9	6.3	3.6	2.0
Question #45: Frequency of professional external consulting in past 2 years	Men	Women	Total FTUG (n=84)	All Others (n=100)
none at all	25.0	25.0	25.0	27.0
1 course	33.8	31.2	33.3	32.0
2 courses	25.0	6.3	21.4	19.0
3 courses	2.9	25.0	7.1	7.0
over 3 courses	13.2	12.5	13.1	15.0
Question #46: In the past two years, how frequently have you delivered invited lectures	Men	Women	Total FTUG (n=84)	All Others (n=100)
none at all	20.6	31.2	22.6	13.0
1 course	39.7	12.5	34.5	17.0
2 courses	23.5	31.2	25.0	32.0
3 courses	8.8	12.5	9.5	26.0
over 3 courses	7.4	12.5	8.3	12.0
Question #47: In the past two years, how frequently have you presented at conferences related to your discipline	Men	Women	Total FTUG (n=84)	All Others (n=100)
none at all	11.8	12.5	11.9	5.0
1 course	14.7	12.5	14.3	12.0
2 courses	33.8	25.0	32.1	31.0
3 courses	32.4	31.2	32.1	34.0

over 3 courses	7.4	18.7	9.5	18.0
Question #48: How many new courses have you developed in the last two years (other than semester conversion)	Men	Women	Total FTUG (n=84)	All Others (n=100)
none at all	42.0	6.3	35.3	44.0
1 course	33.3	62.5	38.8	36.0
2 courses	10.1	6.3	9.4	17.0
3 courses	8.7	6.3	8.2	2.0
over 3 courses	5.8	18.7	8.2	1.0

Optional questions concerning general issues at Georgia Tech

Four optional questions were concerned with general issues at Tech.

Results are detailed in Table 17. Findings included:

- **Sixty-one percent of respondents agreed fully or somewhat that the *mix between expectations for research and teaching* are appropriate.**
- **About one-third of respondents indicated that none of their *research effort over the past two years has been interdisciplinary*, while another one-third noted that between 1% and 25% of their total research effort had been interdisciplinary in nature.**
- **About two-thirds of respondents felt that Georgia Tech's *intellectual property policy* had been either no hindrance or only a slight hindrance to their research effort over the past two years.**
- **The area of greatest concern at Georgia Tech reported on this survey varied by gender. For males, it was *teaching and research space*, with *teaching loads* in second place. For females, it was *teaching loads*. No respondents male or female felt that *computing facilities* were a major problem.**

Table 17. Frequency distribution of GT faculty response to questions concerned with general issues at Georgia Tech.

Question #56: To what extent do you agree that the mix between expectations for research and teaching at Tech is appropriate?	Men	Women	Total FTUG (n=82)	All Others (n=97)
agree fully	27.3	6.3	23.2	27.8
agree somewhat	36.4	43.7	37.8	44.3
disagree somewhat	21.2	43.7	25.6	22.7
disagree fully	12.1	6.3	11.0	5.2
no opinion	3.0	0.0	2.4	0.0
Question #57: Estimate the proportion of your total research effort over the past two years that has been interdisciplinary	Men	Women	Total FTUG (n=82)	All Others (n=97)
none	27.7	41.2	30.5	22.7
1 % to 25 %	32.3	29.4	31.7	20.6
26 % to 50 %	16.9	11.8	15.9	22.7
51 % to 75 %	9.2	0.0	7.3	15.5
76 % to 100 %	13.8	17.6	14.6	18.6

Question #58: To what extent is our intellectual property policy a hindrance to your research effort?	Men	Women	Total FTUG (n=82)	All Others (n=98)
Not at all	43.1	64.7	47.6	49.0
slightly	21.5	29.4	23.2	22.4
moderately	20.0	0.0	15.9	13.3
greatly	4.6	5.9	4.9	7.1
no opinion	10.8	0.0	8.5	8.2
Question #58: To what extent is our intellectual property policy a hindrance to your research effort?	Men	Women	Total FTUG (n=81)	All Others (n=95)
teaching and research space	37.5	17.6	33.3	47.4
student/faculty ratio	17.2	23.5	18.5	12.6
computing facilities	0.0	0.0	0.0	3.2
teaching loads	28.1	35.3	29.6	17.9
faculty salaries	17.2	23.5	18.5	18.9

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