

# 2007 Annual Survey of the Mathematical Sciences in the United States

*(Third Report)*

Faculty Profile  
Enrollment and Degrees Awarded Profile  
Graduate Student Profile

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## Introduction

The Annual Survey of the Mathematical Sciences collects information each year about departments, faculties, and students in the mathematical sciences at four-year colleges and universities in the United States. The information presented in this report was gathered on a questionnaire called the Departmental Profile which was mailed to all mathematical sciences departments in Groups I, II, III, IV, Va, and M and to a stratified random sample drawn from Group B. The questionnaire gathered information about the number of faculty in various categories, the recruitment of new faculty, undergraduate and graduate course enrollments, bachelor's and master's degrees awarded during the preceding year, and the number of graduate students, all as of fall 2007. The 2007 First Report, Part II, presented data collected earlier about faculty salaries (pages 387-93 of the March 2008 issue of *Notices of the AMS*). Definitions of the various departmental groupings used in the Annual Survey reports can be found on page 1276 of this report.

The careful reader will note that a row or column total may differ slightly from the sum of the individual entries. All the table entries are the rounded values of the individual projections associated with each entry, and the differences are the result of this rounding (as the sum of rounded numbers is not always the same as the rounded sum). Further details on the statistical procedures used with the survey are described on page 1276.

This Third Report of the 2007 Annual Survey gives information about faculty size, departmental enrollments, majors, and graduate students for departments of mathematical sciences in four-year colleges and universities in the United States.

The 2007 Annual Survey represents the fifty-first in an annual series begun in 1957 by the American Mathematical Society. The 2007 Survey is under the direction of the Data Committee, a joint committee of the American Mathematical Society, the American Statistical Association, the Institute of Mathematical Statistics, the Mathematical Association of America, and the Society of Industrial and Applied Mathematics. The current members of this committee are Richard Cleary, Richard M. Dudley, John W. Hagood, Abbe H. Herzig, Ellen Kirkman, David J. Lutzer, Joanna Mitro, James W. Maxwell (ex officio), Bart Ng, Polly Phipps (chair), Douglas Ravelle, Jianguo (Tony) Sun, and Marie Vitulli. The committee is assisted by AMS survey analyst Colleen A. Rose. Comments or suggestions regarding this Survey Report may be directed to the committee.

## Faculty Size

Table 1A gives the number of faculty for different categories of faculty broken down by survey group, Table 1B gives the same information for females only, and Table 1C gives some percentages based on the information in Tables 1A and 1B. The estimated total number of full-time faculty in the mathematics groups (Groups I, II, III, Va, M, and B combined) is 21,470, with a standard error of 292, down 616 from last year. The doctoral mathematics departments (Groups I, II, III, and Va) are up 254

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## Highlights

Changes in the numbers of faculty in various categories from 2006 to 2007 were modest. The estimated number of full-time faculty in all mathematics departments combined is 21,470, down slightly from 22,086 last year. The number of nondoctoral full-time faculty is 3,839, down modestly from 4,107 last year. The number of part-time faculty is 7,065, up 8% from 6,543 last year.

For the doctoral math departments combined, the number of full-time non-tenure-track doctorate-holding faculty continued its slow but steady climb since 2000. This number reached 1,576 for 2007, up 59% over its 2000 figure of 993. Faculty holding a postdoctoral position have been tracked separately since 2003 and accounted for just over half of the non-tenure-track faculty reported for fall 2007.

Overall, women comprised 27% of the full-time faculty in mathematics departments in fall 2007, unchanged from the 27% reported for fall 2006. For the doctoral mathematics departments, women comprised 12% of the doctoral-holding tenured and tenure-track faculty and 25% of the doctoral-holding non-tenure-track faculty in fall 2007. For Group M faculty these same percentages are 25 and 39 respectively, and for Group B faculty they are 27 and 33 respectively. Among the nondoctoral full-time faculty in all math departments combined, women comprise 52%.

For all mathematics departments combined, the number of full-time positions under recruitment during 2006-2007 dropped slightly from last year's high of 1,798 to 1,786. The number of tenured/tenure-track positions under recruitment during this period was 1,131, down 8% from the previous year's figure of 1,231. The number of full-time positions filled was 1,487, with 810 of these tenured/tenure-track positions. These figures are down 3% and 4%, respectively, from the figures reported for fall 2006.

For all mathematics departments combined, the number of new doctoral hires for positions beginning in fall 2007 was down 10% from the previous year's number, to 634. Most of the decline was due to a significant drop-off in the new doctoral hires in Group M departments. The number of new doctoral hires into tenure-track positions is down 19% to 331 for fall 2007, with all the decrease coming in Group M and Group B departments where the total was 283, down 22% from fall 2006's figure of 362.

Among the 268 individuals hired into tenure-track positions in the doctoral mathematics departments, 164 held a non-tenure-track position when hired and 70% of these were postdoctoral positions. For the 543 individuals hired into tenure-track positions in Groups M and B combined, 39% (211) held a non-tenure-track position when hired and 32% of these were postdoctoral positions.

The reported number of full-time graduate students at doctoral mathematics departments decreased slightly to 10,937 for fall 2007 after reaching a ten-year high of 10,984 for fall 2006. The number of women among these graduate students also decreased slightly to 3,249 after also reaching a ten-year high of 3,279 for fall 2006. The percentage of women remained steady at 30%. The percent of U.S. citizens among the total full-time graduate students remained steady at 56%. The percentage of underrepresented minorities among the U.S. citizen graduate students is reported for the first time. The figure for 2007 is 10%, in line with the figures for the prior years. This data was first collected in 2003.

full-time faculty members, Group M is down 204 faculty members, and Group B is down 666. The total faculty size in the statistics and biostatistics group (Group IV) is down to 1,691 this year from 1,702 last year.

This year the estimated number of part-time faculty in Groups I, II, III, Va, B, and M combined is 7,065, up 8% from last year's 6,543. The number of non-tenure-track doctoral faculty (including postdoctoral positions) is estimated at 2,170 this year, down 5% from 2,289 last year. The number of nondoctoral full-time faculty is estimated at 3,839 in Groups I, II, III, Va, M, and B combined, down from 4,107 last year, a 7% decrease. In Group IV the number of part-time faculty decreased from 201 last year to 149 this year, and the number of non-tenure-track doctoral faculty decreased from 402 last year to 378 this year due to the decreased number of postdoctoral appointments.

Table 1D gives an eight-year history of tenured/tenure-track, and non-tenure-track doctorate-holding faculty, and all part-time faculty for Groups I, II, III, and Va combined, for Group M, and for Group B. Also shown for each number in this table is the percentage of females. Comparing the 2007 values to the 2000 values, we see that for Groups I, II, III, and Va combined the number of tenured/tenure-track faculty is up 3%, the number of non-tenure-track faculty is up 59%, and the number of part-time faculty is down 18%. For Group M, the number of tenured/tenure-track faculty is down 9%, the number of non-tenure-track faculty is down 11%, and the number of part-time faculty is down 2%. Finally in Group B, the number of tenured/tenure-track faculty is up 17%, the number of non-tenure-track faculty is down 11%, and the number of part-time faculty is up 13%.

Table 1E gives a summary of the various types of faculty found in departments of mathematical sciences by sex and group.

Tables 1F and 1G give more information about two types of faculty: full-time faculty without a doctorate and part-time faculty. The Table 1F shows the information for the 3,839 full-time faculty in the mathematics departments who do not have doctoral degrees. The majority of these faculty, 3,070 (80%), are found in Groups M and B departments. Table 1G shows the part-time faculty broken down by sex and whether they have a doctoral degree. Comparing Table 1G to last year's table, we see an overall increase in part-time faculty with the largest increase in Group B part-time faculty (12%, from 2,187 last year to 2,454 this year).

### Female Faculty

Table 1B gives a complete breakdown of all categories of female faculty by group. For 2007-2008 the estimated total number of full-time faculty in Groups I, II, III, Va, M, and B combined is 21,470, of which 5,891 are females. While the number of females is down from 6,063 last year,

Table 1A: Total Faculty, Fall 2007

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
<b>Total full-time faculty</b> <i>(Standard error)<sup>1</sup></i>	<b>1781</b>	<b>1035</b>	<b>2714</b>	<b>2225</b>	<b>299</b>	<b>8054</b> <i>(64)</i>	<b>4491</b> <i>(58)</i>	<b>8925</b> <i>(284)</i>	<b>21470</b> <i>(292)</i>	<b>1691</b> <i>(33)</i>
Doctoral full-time faculty	1705	1028	2393	1875	284	<b>7285</b>	3556	6790	<b>17631</b>	1618
Tenured	1107	566	1589	1264	168	<b>4693</b>	2475	4504	<b>11672</b>	851
Untenured, tenure-track	175	91	332	366	52	<b>1016</b>	849	1923	<b>3789</b>	390
Postdoctoral appointments	221	271	235	45	35	<b>807</b>	12	14	<b>833</b>	102
Other non-tenure-track	202	100	237	200	29	<b>769</b>	219	349	<b>1337</b>	276
Nondoctoral full-time faculty <i>(Standard error)<sup>1</sup></i>	76	7	322	350	15	<b>769</b> <i>(24)</i>	935 <i>(29)</i>	2135 <i>(142)</i>	<b>3839</b> <i>(146)</i>	73 <i>(5)</i>
<b>Total part-time faculty</b> <i>(Standard error)</i>	<b>196</b>	<b>30</b>	<b>373</b>	<b>525</b>	<b>19</b>	<b>1143</b> <i>(27)</i>	<b>1868</b> <i>(71)</i>	<b>4053</b> <i>(407)</i>	<b>7065</b> <i>(410)</i>	<b>149</b> <i>(14)</i>

<sup>1</sup> See 'Remarks on Statistical Procedures' page 1276.

females comprise 27% of the full-time faculty in both 2006–2007 and 2007–2008. In Group B the estimated number of doctoral female faculty decreased from 1,903 last year to 1,863 this year, tenured female faculty decreased from 1,158 to 1,123, untenured but tenure-track female faculty increased from 610 to 620, and non-tenure-track doctoral female faculty (including postdoctoral appointments) decreased from 135 to 119. In Group M the doctoral full-time female faculty increased from 916 last year to 925 this year.

Table 1C compares the number of full-time and female full-time faculty that fall into each reporting group for fall 2007. The percentage who are female in each group is given in the bottom row of Table 1C. These percentages vary considerably among the groups, from a low of 13% for Group I Private to a high of 32% for Groups M and B.

Table 1D contains information about the percentage of female faculty among the tenured/tenure-track and non-tenure-track doctoral full-time faculty and among the part-time faculty for the years 2000 to 2007.

Table 1E gives the male/female breakdown by count and percentage for Groups I, II, III, and Va combined, Groups M and B combined, and Group IV for various categories of faculty. It shows that the percentage of women is generally higher in statistics (Group IV) than in the doctoral mathematics groups (Groups I, II, III, and Va combined) and that the percentage of tenured faculty who are women is highest in Groups M and B combined.

Table 1F shows that of the 3,839 nondoctoral full-time faculty in Groups I, II, III, Va, M, and B combined, 2,001 (52%) are females. From Table 1G we see that in these same groups there are 7,065 part-time faculty, of which 2,872 (41%) are females.

### Faculty Recruitment

Table 2A contains detailed information on the number of full-time doctoral faculty positions under recruitment during 2006–2007 for employment beginning in the academic year 2007–2008. Among mathematics departments (Groups I, II, III, Va, M, and B), 1,786 positions were under recruitment, down 1% compared to those under recruitment during 2005–2006. Of those 1,786 positions, 1,564 (88%) were available to new doctoral recipients, and of those 1,564 positions, 935 (60%) were tenured/tenure-track positions. The 935 tenured/tenure-track positions open to new doctoral recipients is down 13% from the 1,073 such positions under recruitment in 2005–2006 primarily reflecting declines in Groups M and B. The total number of tenured/tenure-track full-time doctoral positions under recruitment in Groups I, II, III, Va, M, and B combined is 1,131, down from last year's 1,231 (a decrease of 8%). In Groups I, II, III, and Va combined, the total number of posted doctoral positions open at the associate/full level increased from 93 last year to 126 this year.

Table 2B condenses the information in Table 2A. It also reorganizes the doctoral hires into one section for new doctoral hires and another for other doctoral hires (so excludes posted doctoral positions that were temporarily filled with a person without a doctorate). Table 2C is derived from Table 2B, with the percentage of the filled positions that were tenured/tenure-track included in the table.

This year the estimated total number of new doctoral hires in mathematics departments is down 10% (to 634 from 701) from last year; it is up 10% (to 298 from 271) in Groups I, II, III, and Va combined, and down 22% (to 335 from 430) in Groups M and B combined. The number of new doctoral tenure-track hires in the math groups combined is down 22% as a result of a decrease

**Table 1B: Female Faculty, Fall 2007**

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
<b>Female full-time faculty</b> <i>(Standard error)</i>	<b>246</b>	<b>139</b>	<b>590</b>	<b>546</b>	<b>48</b>	<b>1569</b> <i>(24)</i>	<b>1428</b> <i>(25)</i>	<b>2895</b> <i>(232)</i>	<b>5891</b> <i>(233)</i>	<b>485</b> <i>(13)</i>
Doctoral full-time faculty	204	136	379	343	39	<b>1101</b>	925	1863	<b>3890</b>	452
Tenured	78	37	152	180	16	<b>462</b>	544	1123	<b>2129</b>	167
Untenured, tenure-track	41	17	81	94	8	<b>241</b>	293	620	<b>1154</b>	147
Postdoctoral appointments	38	51	46	11	5	<b>152</b>	4	2	<b>158</b>	29
Other non-tenure-track	47	31	100	59	9	<b>246</b>	86	117	<b>449</b>	108
Nondoctoral full-time faculty	42	3	211	203	9	<b>468</b>	502	1031	<b>2001</b>	33
<b>Female part-time faculty</b>	<b>63</b>	<b>3</b>	<b>142</b>	<b>208</b>	<b>3</b>	<b>418</b>	720	1734	<b>2872</b>	59

**Table 1C: Full-Time Faculty, Fall 2007**

	GROUP								
	I Public	I Private	II	III	Va	M	B	IV	TOTAL
<b>Full-time faculty</b> <i>Percentage of total full-time faculty</i>	<b>1781</b> 8%	<b>1035</b> 4%	<b>2714</b> 12%	<b>2225</b> 10%	<b>299</b> 1%	<b>4491</b> 19%	<b>8925</b> 39%	<b>1691</b> 7%	<b>23161</b> 100%
<b>Female full-time faculty</b> <i>Percentage of total female full-time faculty</i>	246 4%	139 2%	590 9%	546 9%	48 1%	1428 22%	2895 45%	485 8%	<b>6376</b> 100%
<i>Percentage of total female faculty within group</i>	14%	13%	22%	25%	16%	32%	32%	29%	<b>28%</b>

**Table 1D: Mathematics Faculty Counts and Percentage Female, Fall 2000-2007**

	2000	2001	2002	2003	2004	2005	2006	2007
<b>Groups I, II, III, &amp; Va</b>								
Doctoral full-time faculty								
<b>Tenured/tenure-track</b>	<b>5568</b>	<b>5598</b>	<b>5616</b>	<b>5559</b>	<b>5604</b>	<b>5686</b>	<b>5668</b>	<b>5709</b>
<i>Percentage female</i>	9%	10%	10%	10%	11%	11%	12%	12%
<b>Non-tenure-track</b>	<b>993</b>	<b>1233</b>	<b>1274</b>	<b>1343</b>	<b>1314</b>	<b>1401</b>	<b>1461</b>	<b>1576</b>
<i>Percentage female</i>	21%	21%	23%	25%	25%	24%	25%	25%
<b>Part-time faculty</b>	<b>1399</b>	<b>1467</b>	<b>1504</b>	<b>1389</b>	<b>1355</b>	<b>1054</b>	<b>1128</b>	<b>1143</b>
<i>Percentage female</i>	37%	38%	35%	35%	37%	37%	40%	37%
<b>Group M</b>								
Doctoral full-time faculty								
<b>Tenured/tenure-track</b>	<b>3670</b>	<b>3191</b>	<b>3188</b>	<b>3005</b>	<b>3113</b>	<b>3351</b>	<b>3400</b>	<b>3325</b>
<i>Percentage female</i>	21%	23%	22%	22%	23%	24%	25%	25%
<b>Non-tenure-track</b>	<b>262</b>	<b>183</b>	<b>276</b>	<b>230</b>	<b>277</b>	<b>263</b>	<b>283</b>	<b>232</b>
<i>Percentage female</i>	29%	24%	39%	33%	48%	36%	28%	38%
<b>Part-time faculty</b>	<b>1906</b>	<b>2323</b>	<b>2393</b>	<b>1952</b>	<b>1888</b>	<b>1842</b>	<b>1493</b>	<b>1868</b>
<i>Percentage female</i>	35%	36%	37%	37%	37%	37%	41%	39%
<b>Group B</b>								
Doctoral full-time faculty								
<b>Tenured/tenure-track</b>	<b>5486</b>	<b>5665</b>	<b>5569</b>	<b>6172</b>	<b>5770</b>	<b>6875</b>	<b>6623</b>	<b>6427</b>
<i>Percentage female</i>	22%	24%	23%	26%	25%	25%	27%	27%
<b>Non-tenure-track</b>	<b>407</b>	<b>504</b>	<b>507</b>	<b>460</b>	<b>472</b>	<b>516</b>	<b>545</b>	<b>363</b>
<i>Percentage female</i>	30%	29%	36%	20%	29%	32%	25%	33%
<b>Part-time faculty</b>	<b>3580</b>	<b>4197</b>	<b>4117</b>	<b>3997</b>	<b>4846</b>	<b>3630</b>	<b>3922</b>	<b>4053</b>
<i>Percentage female</i>	40%	43%	45%	42%	44%	41%	40%	43%

Table 1E: Summary of Full-Time and Part-Time Faculty, Fall 2007

	GROUP					
	I, II, III, & Va		M & B		IV	
	Male	Female	Male	Female	Male	Female
<b>Full-time faculty</b>	<b>6485</b>	<b>1569</b>	<b>9094</b>	<b>4322</b>	<b>1206</b>	<b>485</b>
<i>Percentage</i>	<i>81%</i>	<i>19%</i>	<i>68%</i>	<i>32%</i>	<i>71%</i>	<i>29%</i>
Doctoral full-time faculty	6184	1101	7557	2789	1167	452
<i>Percentage</i>	<i>85%</i>	<i>15%</i>	<i>73%</i>	<i>27%</i>	<i>72%</i>	<i>28%</i>
Tenured	4231	462	5312	1667	684	167
<i>Percentage</i>	<i>90%</i>	<i>10%</i>	<i>76%</i>	<i>24%</i>	<i>80%</i>	<i>20%</i>
Untenured, tenure-track	775	241	1860	913	243	147
<i>Percentage</i>	<i>76%</i>	<i>24%</i>	<i>67%</i>	<i>33%</i>	<i>62%</i>	<i>38%</i>
Postdoctoral appointments	655	152	20	6	73	29
<i>Percentage</i>	<i>81%</i>	<i>19%</i>	<i>78%</i>	<i>22%</i>	<i>71%</i>	<i>29%</i>
Other non-tenure-track	523	246	365	203	167	108
<i>Percentage</i>	<i>68%</i>	<i>32%</i>	<i>64%</i>	<i>36%</i>	<i>61%</i>	<i>39%</i>
Nondoctoral full-time faculty	301	468	1537	1533	39	33
<i>Percentage</i>	<i>39%</i>	<i>61%</i>	<i>50%</i>	<i>50%</i>	<i>54%</i>	<i>46%</i>
<b>Part-time faculty</b>	<b>725</b>	<b>418</b>	<b>3467</b>	<b>2454</b>	<b>90</b>	<b>59</b>
<i>Percentage</i>	<i>63%</i>	<i>37%</i>	<i>59%</i>	<i>41%</i>	<i>60%</i>	<i>40%</i>

in Groups M & B combined (down to 283 from 362). Among the new doctoral hires in Groups I, II, III, and Va combined, 13% of all males and 24% of all females took tenure-track positions. In contrast, for new doctoral hires in Groups M and B combined, 81% of all males and 88% of all females took tenure-track positions. From Table 2C we see that in Groups I, II, III, and Va 16% of the hires of new doctoral recipients are in tenured/tenure-track positions (the same as last year), while in Groups M and B 84% of the new doctoral hires are in tenured/tenure-track positions (the same as last year).

From Table 2B we find that the total number of full-time doctoral positions filled in mathematics departments (Groups I, II, III, Va, M, and B combined) is 1,385 down from 1,435 last year (a decrease of 4%); it is up 14% in Groups I, II, III, and Va combined and down 16% in Groups M and B combined. This year Groups I, II, III, and Va combined filled 663 doctoral positions, of which 268 (40%) were tenured/tenure-track positions. Last year these same groups filled 581 doctoral positions, of which 230 (40%) were tenured/tenure-track. Groups M and B combined filled 722 doctoral positions this year, and 543 (75%) of these were tenured/tenure-track positions. Last year these two groups filled 854 doctoral positions, of which 613 (72%) were tenured/tenure-track.

Beginning with the 2004 Annual Survey, departments were asked to report the number of doctoral hires into tenured/tenure-track positions filled by individuals who held a non-tenure-track position the previous year and of those, how many were in postdoctoral appointments. For Groups I, II, III, and Va combined, 164 individuals reported having held a non-tenure-track position the previous year (61% of the 268 tenure-track hires), with 115 (43%) having held a postdoctoral appointment the previous year. This compares with last year's figure of 121 (53%) positions filled by individuals who held a postdoctoral appointment the previous year. For Groups M and B combined, 211 individuals (39% of the 543 tenure-track hires) reported having held a non-tenure-track position the previous year, with 67 (12%) having held a postdoctoral appointment the previous year. This compares with last year's figure of 137 (22%) positions filled by individuals

Table 1F: Nondoctoral Full-Time Faculty, Fall 2007

Full-time Faculty	GROUP							
	I, II, III, & Va		M & B		TOTAL		IV	
	Male	Female	Male	Female	Male	Female	Male	Female
<b>Without a Doctorate</b>	<b>301</b>	<b>468</b>	<b>1537</b>	<b>1533</b>	<b>1838</b>	<b>2001</b>	<b>39</b>	<b>33</b>
Tenured	14	7	554	260	568	267	1	0
Untenured, tenure-track	3	1	139	136	142	137	2	1
Postdoctoral appointments	1	3	5	0	6	3	0	0
Other non-tenure-track	283	456	839	1137	1122	1593	36	32

Table 1G: Part-Time Faculty, Fall 2007

	GROUP							
	I, II, III, & Va		M & B		TOTAL	IV		
	Male	Female	Male	Female		Male	Female	
Doctoral part-time faculty	337	105	1015	545	<b>2002</b>	79	37	
Nondoctoral part-time faculty	388	313	2452	1909	<b>5063</b>	11	22	
<b>TOTAL</b>	<b>725</b>	<b>418</b>	<b>3467</b>	<b>2454</b>	<b>7065</b>	<b>90</b>	<b>59</b>	

who held a postdoctoral appointment the previous year.

The estimated number of not-new doctoral hires in mathematics departments is 750, up from 734 last year. The total of not-new doctoral hires into tenured/tenure-track positions in all the mathematics groups combined is 479, up 10% from last year. It is up 19% in Groups I, II, III, and Va combined (to 220 from 185 last year), and up 3% in Groups M and B combined (259 from 251).

Figure 1 shows the number of full-time doctoral positions posted for all groups combined except Group IV, as well as the number of those that were tenured/tenure-track for the years 1995 to 2007.

**Table 2A: Recruitment of Faculty with a Doctorate, Fall 2007**

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
<b>Posted Doctoral Positions</b>										
<b>Total number<sup>1</sup></b> <i>(Standard error)</i>	<b>203</b>	<b>113</b>	<b>251</b>	<b>169</b>	<b>25</b>	<b>762</b> <i>(34)</i>	<b>279</b> <i>(24)</i>	<b>745</b> <i>(81)</i>	<b>1786</b> <i>(85)</i>	<b>160</b> <i>(18)</i>
Tenured/tenure-track	80	31	107	124	19	<b>360</b>	245	526	<b>1131</b>	130
Open to new doctoral recipients	142	84	212	147	21	<b>607</b>	245	712	<b>1564</b>	102
Tenured/tenure-track	30	8	79	107	16	<b>240</b>	210	485	<b>935</b>	95
Open at assoc/full level	30	19	27	46	4	<b>126</b>	28	53	<b>207</b>	50
<b>Reported Hires for Above</b>										
<b>Total number</b>	<b>184</b>	<b>102</b>	<b>227</b>	<b>138</b>	<b>19</b>	<b>669</b>	<b>220</b>	<b>597</b>	<b>1487</b>	<b>109</b>
Male doctoral hires	159	73	178	102	16	<b>527</b>	138	317	<b>982</b>	64
Tenured/tenure-track	51	12	64	66	13	<b>207</b>	119	210	<b>536</b>	58
Female doctoral hires	25	29	45	34	3	<b>135</b>	64	203	<b>402</b>	43
Tenured/tenure-track	9	4	20	27	0	<b>61</b>	56	157	<b>274</b>	27
Male temporary hires	0	0	3	1	0	<b>4</b>	17	43	<b>64</b>	0
Female temporary hires	0	0	1	1	0	<b>3</b>	2	35	<b>39</b>	2
<b>Total new doctoral hires</b>	<b>82</b>	<b>67</b>	<b>102</b>	<b>40</b>	<b>7</b>	<b>298</b>	<b>63</b>	<b>272</b>	<b>634</b>	<b>37</b>
Male new doctoral hires	61	50	83	26	4	<b>224</b>	37	149	<b>410</b>	19
Tenured/tenure-track	4	0	10	14	1	<b>29</b>	29	122	<b>180</b>	19
Female new doctoral hires	21	17	19	14	3	<b>74</b>	27	123	<b>224</b>	17
Tenured/tenure-track	3	0	4	12	0	<b>18</b>	27	105	<b>151</b>	15
<b>Unfilled positions</b>	<b>18</b>	<b>12</b>	<b>25</b>	<b>31</b>	<b>7</b>	<b>92</b>	<b>59</b>	<b>147</b>	<b>299</b>	<b>52</b>

<sup>1</sup> Number of full-time doctoral positions under recruitment in 2006–2007 to be filled for 2007–2008.

**Table 2B: A Summary of Recruitment of Faculty with a Doctorate, Fall 2007**

	GROUP		
	I, II, III, & Va	M & B	IV
<b>Posted Doctoral Positions</b>			
<b>Total number</b>	<b>762</b>	<b>1024</b>	<b>160</b>
Tenured/tenure-track	360	771	130
Open to new doctoral recipients	607	957	102
Tenured/tenure-track	240	695	95
<b>Reported Hires for Above, excluding temporary hires</b>			
<b>Total doctoral hires</b>	<b>663</b>	<b>722</b>	<b>107</b>
Tenured/tenure-track	268	543	85
Previously in non-tenure-track	164	211	25
Previously in postdoc	115	67	10
<b>Total new doctoral hires<sup>1</sup></b>	<b>298</b>	<b>335</b>	<b>37</b>
Tenured/tenure-track	48	283	35
Male	224	186	19
Tenured/tenure-track	29	151	19
Female	74	150	17
Tenured/tenure-track	18	132	15
<b>Total not-new doctoral hires</b>	<b>364</b>	<b>386</b>	<b>70</b>
Tenured/tenure-track	220	259	50
Male	304	269	45
Tenured/tenure-track	178	178	39
Female	61	117	25
Tenured/tenure-track	42	81	12

<sup>1</sup> New doctoral hires are individuals who have held a doctorate for less than one year at the time of hiring.

The number of positions posted and the number of available tenured/tenure-track positions steadily increased, reaching a maximum in 2001. These numbers declined for the next two years, then

increased in 2004 and again in 2006. This year both the number of positions posted and the number of tenured/tenure-track positions posted have decreased slightly from last year.

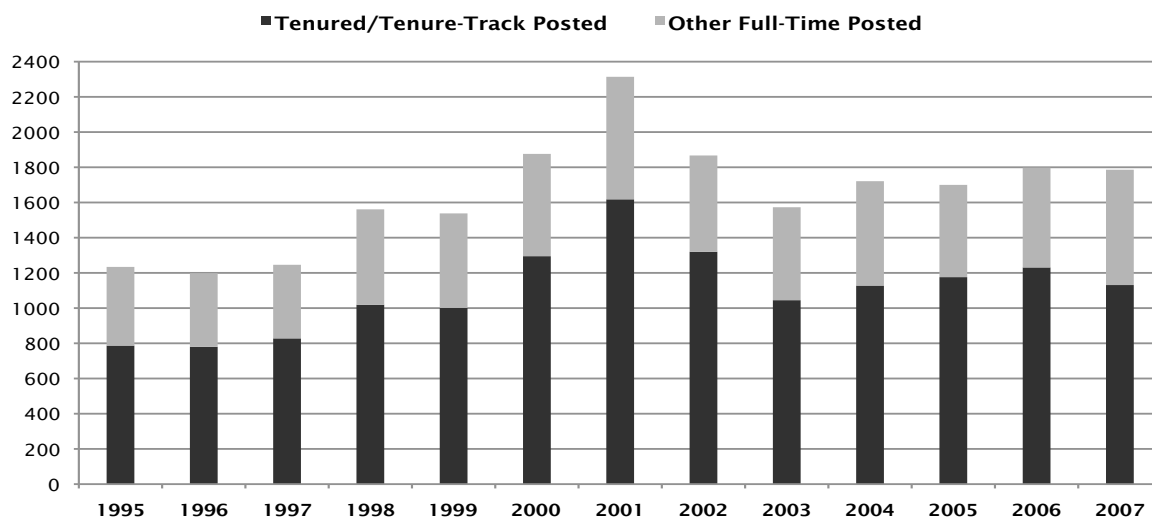
Figure 1A shows the number of full-time doctoral positions filled for all groups combined except Group IV, as well as the number of tenured/tenure-track for the years 2001 to 2007. Since 2004 the number of tenured/tenure-track positions filled has remained relatively stable, while the number of other positions filled shows more variability across these years.

**Faculty Attrition**

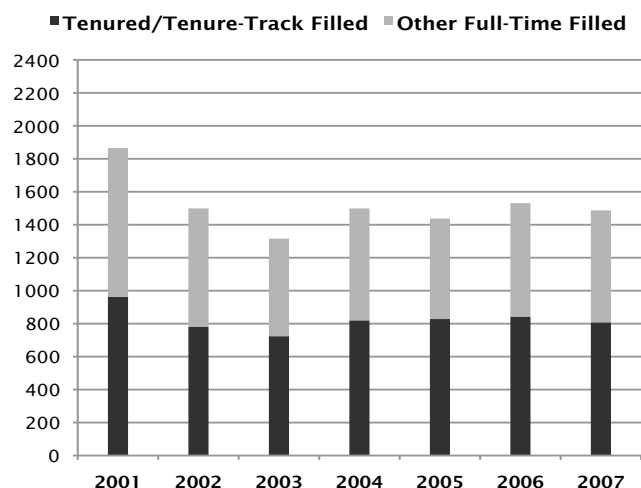
Table 3 displays losses of full-time mathematical sciences faculty due to retirements and deaths between 1 September 2006 and 31 August 2007 for each departmental grouping. The fall 2007 faculty attrition rate for Groups I, II, III, Va, M, and B combined is 2.5%, and it is 1.7% for Group IV. For fall 2007, Group I (Pri) had the lowest attrition rate at 0.4%, while Group B had the highest at 3.3%.

Figure 2 shows the trends in these attrition rates between 1994 and 2007. While the rates vary from group to group and from year to year within each group, for most of the 1990s the dominant trend was one of increasing attrition for all groups combined. In the late 1990s attrition leveled off then began dropping in 2003; it reached a low in 2006 and has increased slightly for 2007.

**Figure 1: Number of Full-Time Doctoral Positions under Recruitment**  
Groups I, II, III, Va, M, & B Combined, Fall 1995 to Fall 2007



**Figure 1A. Number of Full-Time Doctoral Positions Filled**  
Groups I, II, III, Va, M, & B Combined, Fall 2001 to Fall 2007



**Table 2C: Positions Posted and Filled, Fall 2007**

Positions	GROUP		
	I, II, III, & Va	M & B	IV
Posted positions opened to new doctoral recipients	607	957	102
% tenured/tenure-track	40%	73%	92%
Positions filled by new doctoral recipients	298	335	37
% tenured/tenure-track	16%	84%	95%
Positions filled by not-new doctoral recipients <sup>1</sup>	364	386	70
% tenured/tenure-track	60%	67%	72%

<sup>1</sup> Not-new doctoral recipients are individuals who have held their doctorate for more than one year.

## Enrollment Profile and Degrees Awarded Profile

The Departmental Profile Survey obtained information about course enrollments and numbers of undergraduate degrees awarded in mathematical sciences departments. Tables 4A and 4B give the total undergraduate and total graduate enrollments in mathematics courses in fall 2007 for each group. The estimated total undergraduate enrollment in fall 2007 for all groups combined is 2,228,000. Table 4A gives these totals for fall 2002 to fall 2007. Total undergraduate enrollments for all groups combined is up 3% from last year; Group M is the only group showing a decline (4%).

Table 4B gives total graduate enrollments for fall 2002 to fall 2007. Total graduate course enrollments for all groups combined is up 9% from last year; the total is up for Group I Pu, III, Va, and IV, and down 6% in Group M.

The historical data on enrollment numbers presented in Tables 4A and 4B for fall 2002 to fall 2007 suggest a trend of gradually increasing undergraduate and graduate enrollments.

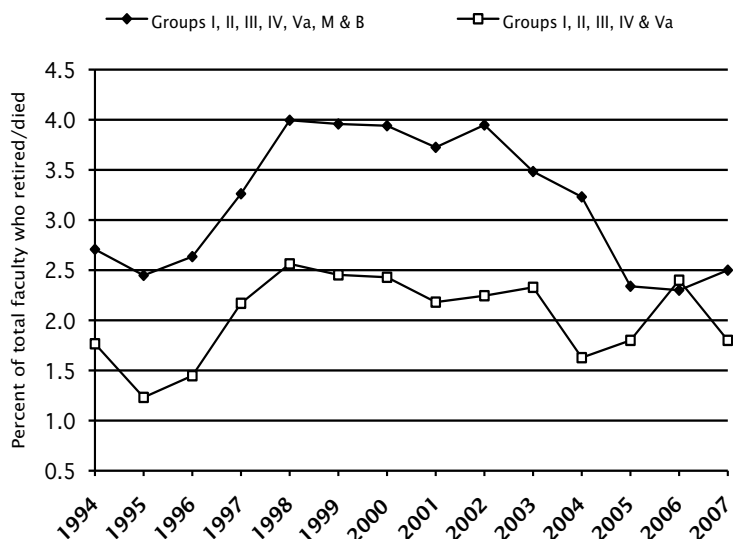
Table 4C gives the undergraduate enrollments per faculty member and the graduate enrollments per faculty member for each group. Table 4D gives the undergraduate

Table 3: Faculty Deaths & Retirements,<sup>1</sup> Fall 2007

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
<b>Full-time faculty who retired or died</b>										
Total number (Standard error)	39	4	46	52	7	149 (9)	98 (10)	292 (45)	539 (46)	29 (6)
Percentage	2.2%	0.4%	1.7%	2.3%	2.2%	1.8%	2.2%	3.3%	2.5%	1.7%

<sup>1</sup> Number and percentage of full-time faculty who were in the department in fall 2006 but were reported to have retired or died by fall 2007.

Figure 2: Faculty Retired/Died



enrollments per faculty member in each group for fall 2002 to fall 2007 and shows a slightly downward trend over the period shown, with the exceptions of Groups Va and B

For a comprehensive survey of undergraduate courses, please refer to the report of the 2005 CBMS survey. This publication is available from the AMS website at [www.ams.org/cbms/](http://www.ams.org/cbms/).

**Undergraduate and Master's Degrees**

Tables 5A and 5C display the (estimated) number of undergraduate and master's degrees reported for 2006–2007 for each departmental group. Table 5B shows the total undergraduate degrees awarded for the period 2002–2003 through 2006–2007. (These data were not collected prior to 2002.) The number of undergraduate degrees awarded has dropped from 24,638 in 2006 to 23,930 in 2007. Table 5D shows the total number of master's degrees awarded for the period 2003–2004 through 2006–2007. (These data were not collected prior to 2004.) The number of master's degrees awarded in mathematics increased from 4,267 reported in 2006 to 4,291 reported in 2007.

The reader should be aware that at least 44 of the 189 departments in the 2007 Group M population and at least 274 of the 1,037 departments in the 2007 Group B population also offer a computer science program in addition to their offerings in

mathematics. In some instances, these computer programs account for a significant fraction of the department's undergraduate degrees. This year's estimated 23,930 undergraduate degrees awarded includes 445 in statistics and 2,297 in computer science. (The report of the 2005 CBMS survey provides a more comprehensive study of departmental bachelor's degrees.) Of the 4,291 master's degrees awarded, 408 were in statistics, and 374 were in computer science.

**Graduate Student Profile**

Table 6A summarizes information gathered by the 2007 Departmental Profile survey about graduate students enrolled in fall 2007. This table gives the number of full-time, full-time first-year, and part-time graduate students for each type of graduate department. These same numbers are also given for female graduate students and for U.S. citizen graduate students.

The estimated total number of graduate students in all mathematics groups combined increased from 13,794 in 2006 to 14,148 in 2007, and the total number of full-time graduate students in Groups I, II, III, and Va combined decreased from 10,984 in 2006 to 10,937 in 2007. The number of U.S. citizen full-time graduate students in Groups I, II, III, and Va combined increased less than 1% to 6,142. The number of first-year full-time students in Groups I, II, III, and Va combined increased from 2,960 last year to 2,964 this year (both the number of first-year U.S. citizens and the number of first-year non-U.S. citizens were up). The number of female full-time graduate students in Groups I, II, III, and Va combined decreased from 3,279 to 3,249.

In Group IV the number of full-time graduate students decreased by 8% to 4,187 and the number of U.S. citizen full-time graduate students decreased by 4% to 1,656. The first-year full-time graduate students in Group IV decreased by 171 to 1,271 and the number of first-year full-time U.S. citizens was down from 628 to 560. The number of female full-time graduate students in Group IV decreased from 2,127 to 2,020, an 5% decrease.

The percentage of full-time graduate students who are U.S. citizens in the mathematics groups combined is 60% while the percentage of full-time graduate students who are U.S. citizens in Group IV is 40%; the percentage of women is 31% in mathematics groups combined and 48% in Group



**Table 4A: Total Undergraduate Course Enrollments (thousands)**

Fall	GROUP								Total
	I Public	I Private	II	III	Va	M	B	IV	
2002	187	41	275	250	16	507	774	76	2125
2003	185	41	283	255	17	498	774	72	2125
2004	159	42	277	261	16	492	782	72	2101
2005	177	43	273	249	12	509	872	70	2205
2006	172	43	290	251	15	496	826	77	2170
2007 (Standard error) <sup>1</sup>	172 (0)	43 (0)	297 (7)	253 (4)	17 (2)	474 (8)	896 (49)	78 (3)	2228 (50)

<sup>1</sup> Standard errors reported as zero reflect rounding of values that are less than 500.

**Table 4B: Total Graduate Course Enrollments (thousands)**

Fall	GROUP							Total
	I Public	I Private	II	III	Va	M	IV	
2002	10	4	11	10	3	12	29	79
2003	10	5	11	11	2	16	31	87
2004	9	4	12	10	2	12	31	81
2005	10	4	13	9	2	16	29	84
2006	9	4	13	10	2	15	29	82
2007 (Standard error) <sup>1</sup>	10 (0)	4 (0)	13 (0)	12 (0)	3 (0)	14 (0)	32 (1)	89 (1)

<sup>1</sup> Standard errors reported as zero reflect rounding of values that are less than 500.

**Table 4C: Undergraduate and Graduate Enrollments per Full-Time Faculty Member, Fall 2007**

Fall	GROUP							
	I Public	I Private	II	III	Va	M	B	IV
<b>Undergraduate Course Enrollments</b> Number per full-time faculty member	96	42	109	114	56	105	100	46
<b>Graduate Course Enrollments</b> Number per full-time faculty member	6	4	5	5	10	3	—	19

**Table 4D: Undergraduate Enrollments per Full-Time Faculty Member**

Fall	GROUP							
	I Public	I Private	II	III	Va	M	B	IV
2002	107	43	114	121	50	117	95	55
2003	104	42	113	121	46	121	89	46
2004	90	44	113	126	49	120	89	49
2005	96	44	108	116	43	113	91	43
2006	98	43	105	113	56	106	82	45
2007	96	42	109	114	56	105	100	46

**Table 5A: Undergraduate Degrees Awarded, Fall 2007**

	GROUP								
	I Public	I Private	II	III	Va	M	B	I, II, III, Va, M, & B	IV
<b>Total Undergraduate Degrees Awarded</b> <i>(Standard error)</i>	2203 (0)	989 (44)	2280 (69)	1785 (33)	333 (62)	4673 (158)	11666 (690)	23930 (716)	508 (43)
Statistics only	37	15	66	125	3	118	82	445	312
Computer science only	32	13	0	105	0	150	1996	2297	4
<b>Female Undergraduate Degrees Awarded</b>	623	270	838	740	111	2023	4706	9310	212
Statistics only	13	7	34	55	0	52	31	192	133
Computer science only	6	5	0	10	0	145	264	431	0

**Table 5B: Undergraduate Degrees Awarded  
Groups I, II, III, Va, M & B Combined**

Fall	2003	2004	2005	2006 <sup>1</sup>	2007
<b>Total Undergraduate Degrees Awarded</b>	22017	24395	23432	24638	23930
<b>Female Undergraduate Degrees Awarded</b> <i>Percentage female</i>	9047 41%	10223 42%	9264 40%	9964 40%	9310 39%

<sup>1</sup> Numbers in this column reflect corrections of those previously reported. For further information visit at <http://www.ams.org/employment/surveyreports.html>.

IV. The number of full-time graduate students in Group M increased from 2,810 to 3,211.

The (estimated) number of part-time graduate students in Groups I, II, III, and Va decreased 10% to 1,713 this year, and in Group IV increased 18% to 917. Group III has 857 (50%) of the part-time graduate students in the doctoral mathematics groups. In the doctoral mathematics groups, 36% of the part-time graduate students are females and 78% are U.S. citizens, and in Group IV 53% of the part-time graduate students are females and 56% are U.S. citizens. The number of Group M part-time graduate students increased from 2,412 to 2,467. For Group M, 48% of the part-time graduate students are females and 84% are U.S. citizens.

Table 6B gives the total number of full-time and full-time first-year graduate students in Groups I, II, III, and Va combined, and the percentages of women and of U.S. citizens for fall 1998 through fall 2007 and the percentage of underrepresented minorities in each category for fall 2003 through fall 2007. From these data we can see that the total number of full-time graduate students in the doctoral mathematics groups had been generally increasing since 1999 reaching a high in 2006, while this year's enrollment has decreased slightly to 10,937. Similarly, the number of full-time graduate students who are U.S. citizens has been increasing since 2002 and remains stable this year at 56%. The number of first-year full-time graduate students who are U.S. citizens had been increasing until 2004 when it reached 60%; after dropping slightly the next two years it remains relatively stable at 56% this year. The percentage of females among full-time graduate students in the combined mathematics groups has remained relatively stable over the 10-year period shown.

**Previous Annual Survey Reports**

The 2007 Annual Survey First Preliminary, First Report, Part II, and Second Reports were published in the *Notices of the AMS* in the February, March, and August 2008 issues respectively. The previous version of this report, the 2006 Annual Survey

**Table 5C: Masters Degrees Awarded, Fall 2007**

	GROUP								
	I Public	I Private	II	III	Va	M	I, II, III, Va & M	IV	
<b>Total Master's Degrees Awarded</b> <i>(Standard error)</i>	432 (0)	228 (32)	768 (29)	741 (18)	236 (31)	1886 (105)	4291 (119)	1427 (78)	
Statistics only	40	0	42	128	0	197	408	984	
Computer science only	8	0	0	83	0	284	374	2	
<b>Female Master's Degrees Awarded</b>	123	61	287	313	65	867	1717	698	
Statistics only	21	0	23	59	0	77	180	464	
Computer science only	3	0	0	21	0	143	167	0	

**Table 5D: Master's Degrees Awarded  
Groups I, II, III, Va & M Combined**

Fall	2004	2005	2006 <sup>1</sup>	2007
<b>Total Master's Degrees Awarded</b>	4620	4254	4267	4291
<b>Female Master's Degrees Awarded</b> <i>Percentage female</i>	2054 44%	1699 40%	1808 42%	1717 40%

<sup>1</sup> Numbers in this column reflect corrections of those previously reported. For further information visit <http://www.ams.org/employment/surveyreports.html>.

Third Report was published in the *Notices of the AMS* in the November 2007 issue. These reports and earlier reports, as well as a wealth of other information from these surveys, are available on the AMS website at [www.ams.org/employment/surveyreports.html](http://www.ams.org/employment/surveyreports.html).

**Acknowledgments**

The Annual Survey attempts to provide an accurate appraisal and analysis of various aspects of the academic mathematical sciences scene for the use and benefit of the community and for filling the information needs of the professional organizations. Every year, college and university departments in the United States are invited to respond. The Annual Survey relies heavily on the conscientious efforts of the dedicated staff members of these departments for the quality of its information. On behalf of the Annual Survey Data Committee and the AMS survey staff, we thank the many secretarial and administrative staff members in the mathematical sciences departments for their cooperation and assistance in responding to the survey questionnaires.

**Table 6A: Graduate Students, Fall 2007**

	GROUP								
	I Public	I Private	II	III	Va	I, II, III, & Va	M	I, II, III, Va, & M	IV
<b>Total Graduate Students</b>									
<b>Full-time</b>	3027	1429	3364	2438	679	10937	3211	14148	4187
<i>(Standard error)</i>						(95)	(250)	(288)	(108)
<b>First-year full-time</b>	676	436	909	731	211	2964	1142	4106	1271
<i>(Standard error)</i>						(32)	(63)	(88)	(52)
<b>Part-time</b>	151	222	392	857	91	1713	2467	4180	917
<i>(Standard error)</i>						(44)	(203)	(221)	(77)
<b>Female Graduate Students</b>									
<b>Full-time</b>	719	342	1071	928	189	3249	1205	4454	2020
<b>First-year full-time</b>	181	121	318	276	53	950	438	1388	609
<b>Part-time</b>	57	42	181	323	21	624	1179	1802	482
<b>U.S. Citizen Graduate Students</b>									
<b>Full-time</b>	1760	656	2046	1347	334	6142	2377	8519	1656
<i>(Standard error)</i>						(67)	(180)	(198)	(49)
<b>First-year full-time</b>	399	171	581	440	113	1704	842	2546	560
<b>Part-time</b>	114	122	323	698	75	1332	2076	3408	515
<i>(Standard error)</i>						(38)	(155)	(168)	(52)

**Table 6B: Full-Time Graduate Students in Groups I, II, III, & Va  
by Sex and Citizenship, Fall 1998–2007**

	1998	1999	2000	2001	2002	2003	2004	2005	2006 <sup>2</sup>	2007
<b>Total full-time graduate students</b>	8791	8838	9637	9361	9972	10444	10707	10565	10984	10937
Female	2770	2766	3016	2899	3136	3215	3245	3111	3279	3249
% Female	32%	31%	31%	31%	31%	31%	30%	29%	30%	30%
% U.S. citizen	55%	53%	53%	49%	51%	54%	55%	56%	56%	56%
% Underrepresented minorities <sup>1</sup>						10%	9%	10%	9%	9%
<b>Total first-year graduate students</b>	2458	2664	2839	2875	2996	2711	3004	2832	2960	2964
Female	859	866	879	1014	1038	902	983	851	961	950
% Female	35%	33%	31%	35%	35%	33%	33%	30%	32%	32%
% U.S. citizen	55%	53%	54%	53%	55%	56%	60%	59%	55%	56%
% Underrepresented minorities						12%	9%	10%	10%	10%

<sup>1</sup> Underrepresented minorities includes any person having origins within the categories *American Indian or Alaska Native, Black or African American, Hispanic or Latino, and Native Hawaiian or Other Pacific Islander*.

<sup>2</sup> Numbers in this column reflect corrections of those previously reported. For further information visit our website at <http://www.ams.org/employment/surveyreports.html>.

## Definitions of the Groups

As has been the case for a number of years, much of the data in these reports is presented for departments divided into groups according to several characteristics, the principal one being the highest degree offered in the mathematical sciences. Doctoral-granting departments of mathematics are further subdivided according to their ranking of "scholarly quality of program faculty" as reported in the 1995 publication *Research-Doctorate Programs in the United States: Continuity and Change*.<sup>1</sup> These rankings update those reported in a previous study published in 1982.<sup>2</sup> Consequently, the departments which now comprise Groups I, II, and III differ significantly from those used prior to the 1996 survey.

The subdivision of the Group I institutions into Group I Public and Group I Private was new for the 1996 survey. With the increase in the number of Group I departments from 39 to 48, the Data Committee judged that a further subdivision of public and private would provide more meaningful reporting of the data for these departments.

### Brief descriptions of the groupings are as follows:

Group I is composed of 48 doctoral-granting departments with scores in the 3.00–5.00 range. Group I Public and Group I Private are Group I doctoral-granting departments at public institutions and private institutions respectively.

Group II is composed of 56 doctoral-granting departments with scores in the 2.00–2.99 range.

Group III contains the remaining U.S. doctoral-granting departments, including a number of departments not included in the 1995 ranking of program faculty.

Group IV contains U.S. doctoral-granting departments (or programs) of statistics, biostatistics, and biometrics reporting a doctoral program.

Group V contains U.S. doctoral-granting departments (or programs) of applied mathematics/applied science, operations research, and management science.

Group Va is applied mathematics/applied science doctoral-granting departments; Group Vb, which is no longer surveyed as of 1998–99, was operations research and management science.

Group M or Master's contains U.S. departments granting a master's degree as the highest graduate degree.

Group B or Bachelor's contains U.S. departments granting a baccalaureate degree only.

*Listings of the actual departments which comprise these groups are available on the AMS website at [www.ams.org/outreach](http://www.ams.org/outreach).*

<sup>1</sup>Research-Doctorate Programs in the United States: Continuity and Change, edited by Marvin L. Goldberger, Brendan A. Maher, and Pamela Ebert Flattau, National Academy Press, Washington, DC, 1995.

<sup>2</sup>These findings were published in An Assessment of Research-Doctorate Programs in the United States: Mathematical and Physical Sciences, edited by Lyle V. Jones, Gardner Lindzey, and Porter E. Coggshall, National Academy Press, Washington, DC, 1982. The information on mathematics, statistics, and computer science was presented in digest form in the April 1983 issue of the Notices, pages 257–67, and an analysis of the classifications was given in the June 1983 Notices, pages 392–3.

## Remarks on Statistical Procedures

The questionnaire on which this report is based, "Departmental Profile", is sent to every doctoral department and starting with 2006 to every master's department. It is sent to a stratified random sample of Group B departments, the stratifying variable being the undergraduate enrollment at the institution.

The response rates vary substantially across the different department groups. For the doctoral departments it ranges between 60 and 80 percent. For Group M it ranges between 50 and 60 percent. For Group B, the response from the approximately 318 sampled departments drawn from the 1,037 total bachelor's departments typically ranges between 40 and 50 percent. For most of the data collected on the Departmental Profile form, the year-to-year changes in a given department's data are very small when compared to the variations among the departments within a given group. As a result of this, the most recent prior year's response is used for a nonresponding department, provided the response is within three years of the current survey. After the inclusion of prior responses, standard adjustments for the remaining nonresponse are then made to arrive at the estimates reported for the entire groups.

Beginning with the 2007 Annual Survey, standard errors were calculated for some of the key estimates for Groups I, II, III, and Va combined, for Groups M and B, and for Group IV. Standard errors are calculated using the variability in the data and can be used to measure how close our estimate is to the true value for the population. As an example, the number of full-time faculty in Group M is estimated at 4,491, with a standard error of 58. This means the actual number of full-time faculty in Group M is most likely between 4,491 plus or minus two standard errors, or between 4,607 and 4,381. This is much more informative than simply giving the estimate of 4,491.

Estimates are also given for parameters that are totals from all groups, such as the total number of full-time faculty. For example, an estimate of the total number of full-time faculty in all groups but group IV is 21,470, with a standard error of 292. Standard errors, when calculated for an estimate, appear in the tables in parentheses underneath the estimate.