

Table 1A: Total Faculty, Fall 2004

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
Total full-time faculty (Standard error)	1753	951	2516	2093	307	7620	4224 (134)	8380 (278)	20224 (308)	1597
Doctoral full-time faculty	1690	945	2229	1762	292	6918	3390	6243	16551	1537
Tenured	1142	554	1589	1260	170	4715	2287	4045	11046	841
Untenured, tenure-track	165	73	275	343	33	889	826	1726	3441	332
Postdoctoral appointments	250	186	198	30	66	730	10	24	764	126
Other non-tenure-track (Standard error)	133	132	167	129	23	584	267 (63)	448 (66)	1300 (92)	238
Nondoctoral full-time faculty	63	6	287	331	15	702	835	2137	3673	60
Total part-time faculty (Standard error)	233	58	409	611	44	1355	1888 (222)	4846 (336)	8089 (403)	246

Faculty Profile

The Departmental Profile, sent in fall 2004 to mathematical sciences departments at four-year colleges and universities as part of the Annual Survey, gathered information about faculties at these schools in fall 2004; this section presents some of that data. The 2004 First Report presented data collected earlier about faculty salaries (pages 236–51 of the February 2005 issue of the *Notices of the AMS*).

Faculty

Table 1A gives the number of faculty for different categories of faculty broken down by group. Table 1B gives the same information for females only. 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 20,224, down 197 from last year, with a standard error of 308. We can be quite confident that the actual total number of faculty in these groups is in the interval 20,224 plus or minus 616. The doctoral mathematics departments I, II, III, and Va are up 42 full-time faculty members, Group M is up 123 faculty members, and Group B is down 362. Since the standard errors for the total number of full-time faculty in Groups M and B are 134 and 278 respectively, there may not be an actual change, as these increases are well within the variability we expect with standard errors of 134 and 278. The total faculty size in the statistics group (Group IV) is up to 1,597 this year from 1,482 last year (an 8% increase).

The number of non-tenure-track doctoral full-time faculty and the number of part-time faculty in mathematics departments had been increasing in

recent years, a disturbing trend highlighted in “Staffing shifts in mathematical sciences departments, 1990–2000” (David J. Lutzer and James W. Maxwell, *Notices*, June/July 2003, pages 683–6). This year the estimated number of part-time faculty in Groups I, II, III, Va, B, and M combined is up to 8,089 (with a standard error of 403) from 7,338 last year, and the number of non-tenure-track doctoral faculty (including postdoctoral positions) is estimated at 2,064 this year, up slightly from 2,032 last year. This year the increase in part-time faculty seems largely due to changes in Group B. This year in Group B the estimated number of full-time faculty is down by 389 (the standard error is 278), and the number of part-time faculty is up by 849 (the standard error is 336) to 4,846, considerably larger than any value in the last seven years; while in Groups I, II, III, and Va combined the number of non-tenure-track doctoral faculty and number of part-time faculty decreased slightly over last year. In Group IV the number of part-time faculty decreased from 263 last year to 240 this year, and the number of non-tenure-track doctoral faculty increased from 327 last year to 364 this year due to the increased number of postdoctoral positions. Table 1D gives a seven-year history of tenure/tenure-track, non-tenure-track, and 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 values over the last seven years, we see that in Groups I, II, III, and Va combined the number of tenured/untentured, tenure-track appointments is down 1%, the number of non-tenure-track doctoral appointments is up 45%, and the number of part-time faculty is up 19%. Over the last seven years in Group M the estimated number of tenured/untentured, tenure-track appointments

Table 1B: Female Faculty, Fall 2004

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
Female full-time faculty <i>(Standard error)</i>	255	113	475	477	51	1371	1345 <i>(58)</i>	2586 <i>(143)</i>	5302 <i>(154)</i>	415
Doctoral full-time faculty	213	111	300	291	41	956	853	1568	3378	383
Tenured	95	32	130	156	18	431	438	912	1780	132
Untenured, tenure-track	26	7	67	86	5	191	283	518	992	114
Postdoctoral appointments	53	41	37	7	13	151	6	3	159	34
Other non-tenure-track	39	31	66	42	5	183	126	136	446	103
Nondoctoral full-time faculty	42	2	175	186	10	415	492	1018	1925	32
Female part-time faculty	82	6	149	252	16	505	700	2131	3335	91

Table 1C: Full-Time Faculty, Fall 2004

	GROUP									TOTAL
	I Public	I Private	II	III	Va	M	B	IV		
Full-time faculty										
Number	1753	951	2516	2093	307	4224	8380	1597		21821
Percentage of total full-time faculty	8%	4%	12%	10%	1%	19%	38%	7%		100%
Female full-time faculty										
Number	255	113	475	477	51	1345	2586	415		5717
Percentage of female full-time faculty	4%	2%	8%	8%	1%	24%	45%	7%		100%
Female full-time faculty Percentage female full-time faculty by group	15%	12%	19%	23%	17%	32%	31%	26%		26%

Table 1D: Faculty Counts and Percentage Female, Fall 1998-2004

	1998	1999	2000	2001	2002	2003	2004
Groups I, II, III, & Va							
Doctoral full-time faculty							
Tenured/Untenured, tenure-track	5662	5765	5568	5598	5616	5559	5604
Percentage female	9%	9%	9%	10%	10%	10%	11%
Non-tenure-track	904	1014	993	1233	1274	1343	1314
Percentage female	21%	22%	21%	21%	23%	25%	25%
Part-time faculty	1141	1217	1399	1467	1504	1389	1355
Percentage female	38%	38%	37%	38%	35%	35%	37%
Group M							
Doctoral full-time faculty							
Tenured/Untenured, tenure-track	3991	3599	3670	3191	3188	3005	3113
Percentage female	19%	20%	21%	23%	22%	22%	23%
Non-tenure-track	140	146	262	183	276	230	277
Percentage female	27%	56%	29%	24%	39%	33%	48%
Part-time faculty	1768	1768	1906	2323	2393	1952	1888
Percentage female	43%	43%	35%	36%	37%	37%	37%
Group B							
Doctoral full-time faculty							
Tenured/Untenured, tenure-track	5726	4580	5486	5665	5569	6172	5770
Percentage female	23%	25%	22%	24%	23%	26%	25%
Non-tenure-track	427	514	407	504	507	460	472
Percentage female	31%	24%	30%	29%	36%	20%	29%
Part-time faculty	3585	3298	3580	4197	4117	3997	4846
Percentage female	42%	41%	40%	43%	45%	42%	44%

is down 22%, the estimated number of non-tenure-track doctoral appointments is up 98%, and the estimated number of part-time faculty is up 7%; and in Group B, the estimated number of tenured/untenured, tenure-track appointments is up 1%, the estimated number of non-tenure-track doctoral appointments is up 11%, and the number of part-time faculty is up 35%. Another group that has been increasing the past few years is the nondoctoral full-time faculty; this year this group is estimated at 3,674 in Groups I, II, III, Va, M, and B combined, up from 3,602 last year.

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 top half of Table 1F is a somewhat condensed version of the doctoral full-time faculty in Table 1A broken down by sex. The bottom half of Table 1F shows this same information for the 3,674 full-time faculty who do not have doctoral degrees. The majority of these faculty, 2,971 (81%), 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.

Faculty Profile for Females

Table 1B gives a complete breakdown of all categories of female faculty by group and shows increasing estimated numbers of female faculty in most categories. The estimated total number of full-time faculty in Groups I, II, III, Va, M, and B combined for 2004-2005 is 20,224, of which 5,302 (26%) are females, up from 5,195 (25%) last year. In the B group the estimated number of doctoral female faculty decreased to 1,568 from 1,698 last year, of tenured female faculty decreased from 921 last year to 912 this year, of untenured tenure-track female faculty decreased from 685 last year to 518 this year (a 24% decrease), and of non-tenure-track doctoral female faculty increased from 92 last year to 136 this year. In the M group estimated

Table 1E: Summary of Full-Time and Part-Time Faculty, Fall 2004

	GROUP					
	I, II, III, & Va		M & B		IV	
	Male	Female	Male	Female	Male	Female
Full-time faculty	6249	1371	8673	3931	1182	415
Percentage	82%	18%	69%	31%	74%	26%
Doctoral full-time faculty	5959	956	7211	2421	1154	383
Percentage	86%	14%	75%	25%	75%	25%
Tenured	4284	431	4982	1349	709	132
Percentage	91%	9%	79%	21%	84%	16%
Untenured, tenure-track	698	191	1751	801	217	114
Percentage	78%	22%	69%	31%	66%	34%
Postdoctoral appointments	579	151	26	9	92	34
Percentage	79%	21%	75%	25%	73%	27%
Other non-tenure-track	401	183	453	263	135	103
Percentage	69%	31%	63%	37%	57%	43%
Nondoctoral full-time faculty	287	415	1461	1510	28	32
Percentage	41%	59%	49%	51%	47%	53%
Part-time faculty	850	505	3904	2830	154	91
Percentage	63%	37%	58%	42%	63%	37%

Table 1F: Doctoral and Nondoctoral Full-Time Faculty, Fall 2004

	GROUP					
	I, II, III, & Va		M & B		TOTAL	
	Male	Female	Male	Female	Male	Female
Doctoral full-time faculty	5959	956	7211	2421	13170	3378
Tenured	4284	431	4982	1349	9266	1780
Untenured, tenure-track	698	191	1751	801	2449	992
Postdoctoral appointments	579	151	26	9	605	159
Other non-tenure-track	401	183	453	263	854	446
Nondoctoral full-time faculty	287	415	1461	1510	1749	1925
Tenured	15	7	613	319	628	326
Untenured, tenure-track	3	4	149	216	152	220
Postdoctoral appointments	2	1	0	0	2	1
Other non-tenure-track	269	404	699	976	968	1379

Table 1G: Part-Time Faculty, Fall 2004

	GROUP				
	I, II, III, & Va		M & B		TOTAL
	Male	Female	Male	Female	
Doctoral part-time faculty	393	118	886	277	1673
Nondoctoral part-time faculty	457	387	3018	2553	6416
TOTAL	850	505	3904	2830	8089

doctoral full-time female faculty increased from 752 last year to 853 this year; in Groups I, II, III, and Va combined doctoral full-time female faculty increased from 919 to 956; and in Group IV doctoral full-time female faculty increased from 372 to 383.

Table 1C shows the number and percentage of all full-time and female full-time faculty that fall

Table 2A: Recruitment of Doctoral Faculty, Fall 2004

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
Posted Doctoral Positions										
Total number ¹	162	130	188	136	23	639	345	736	1721	180
<i>(Standard error)</i>							<i>(52)</i>	<i>(74)</i>	<i>(91)</i>	
Tenured/tenure-track	62	35	96	100	17	309	270	549	1128	130
Open to new doctoral recipients	120	95	148	110	18	491	284	647	1423	123
Tenured/tenure-track	22	7	67	83	13	192	229	497	919	95
Open at assoc/full level	22	21	25	31	11	110	69	125	305	62
Reported Hires for Above										
Total number	136	120	165	111	20	551	279	668	1499	123
Male doctoral hires	103	89	131	78	17	417	182	341	939	68
Tenured/tenure-track	29	18	52	49	11	159	134	260	553	40
Female doctoral hires	33	31	26	23	3	117	79	208	404	51
Tenured/tenure-track	12	9	12	20	2	55	65	147	267	33
Male temporary hires	0	0	8	9	0	16	7	54	78	4
Female temporary hires	0	0	0	1	0	1	11	65	77	0
Total new doctoral hires	75	51	64	34	9	232	114	243	590	65
Male new doctoral hires	54	35	48	22	8	166	71	150	388	38
Tenured/tenure-track	0	0	7	13	2	22	65	98	185	23
Female new doctoral hires	21	16	15	12	1	66	43	93	202	27
Tenured/tenure-track	1	0	4	10	0	16	35	83	134	23
Unfilled positions	26	10	23	25	3	88	66	68	222	57

¹ Number of full-time doctoral positions under recruitment in 2003–2004 to be filled for 2004–2005.

Table 2B: A Summary of Recruitment of Doctoral Faculty, Fall 2004

	GROUP		
	I, II, III, & Va	M & B	IV
Posted Doctoral Positions			
Total number	639	1081	180
Tenured/tenure-track	309	819	130
Open to new doctoral recipients	491	932	123
Tenured/tenure-track	192	726	95
Reported Hires for Above			
Total new doctoral hires ¹	232	358	65
Tenured/tenure-track	37	281	45
Male	166	222	38
Tenured/tenure-track	22	163	23
Female	66	136	27
Tenured/tenure-track	16	118	23
Total other doctoral hires	302	452	54
Tenured/tenure-track	177	325	27
Male	251	301	30
Tenured/tenure-track	137	230	17
Female	51	152	24
Tenured/tenure-track	39	94	10

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

into each group for 2004–2005. The number of faculty in each group and the percentage who are female are given in the bottom section of Table 1C. The number of females as a percentage of full-time faculty varies considerably among the groups, from 12% for Group I Private to 32% for Group M; this year the percentage of females in each mathematical group was greater than or equal to the percentage

of females last year. Note: In Table 1C the percentages for each group in rows 2 and 4 are of the row totals. The percentages in row 5 are column percentages using the numbers in rows 1 and 3.

Table 1D contains information about the percentage of female tenure/untentured, tenure-track, non-tenure-track doctoral full-time faculty, and part-time faculty for the years 1998 to 2004 for Groups I, II, III, and Va combined, M, and B. This table includes the total number for each category as well as the percentage of females for each number. While this year females comprise 26% of the full-time faculty, they are a larger percentage of the part-time faculty in all three categories and a larger percentage of the non-tenure-track faculty in Groups M and B.

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 3,674 nondoctoral full-time faculty in Groups I, II, III, Va, M, and B combined, 1,925 (52%) are females. In Table 1G we see that in these same groups there are 8,089 part-time faculty, of which 3,335 (41%) are females.

**Table 2C: Positions Posted and Filled,
Fall 2004**

Positions	GROUP		
	I, II, III, & Va	M & B	IV
Posted positions opened to new doctoral recipients	491	932	123
% tenured/tenure-track	39%	78%	77%
Positions filled by new doctoral recipients	232	358	65
% tenured/tenure-track	16%	79%	70%
Positions filled by not-new doctoral recipients ¹	302	452	54
% tenured/tenure-track	59%	72%	50%

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

Faculty Recruitment

Table 2A contains detailed information on the number of full-time doctoral faculty positions in mathematical sciences departments under recruitment in 2003-2004 for employment beginning in the academic year 2004-2005. Among mathematics departments (Groups I, II, III, Va, M, and B), 1,721 positions were under recruitment in 2003-2004 for employment beginning in the academic year 2004-2005, up 14% compared to last year. Of those 1,721 positions, 1,423 (83%) were available to new doctoral recipients, and of those 1,423 positions, 919 (65%) were tenured/tenure-track positions. The 919 tenured/tenure-track positions open to new doctoral recipients is up 6% from the 869 such positions under recruitment in 2002-2003. The total number of tenured/tenure-

track full-time doctoral positions under recruitment in Groups I, II, III, Va, M, and B combined is 1,128, up from last year's 1,007 (an increase of 12%). In Groups I, II, III, and Va combined, the total number of posted doctoral positions open at the associate/full level increased from 108 last year to 110 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.

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 up to 1,344 from 1,116 last year (an increase of 20%); it is up 25% in Groups I, II, III, and Va combined and 18% in Groups B and M combined. This year Groups I, II, III, and Va combined filled 534 doctoral positions, of which 214 (40%) were tenured/tenure-track positions. Last year these same groups filled 427 doctoral positions, of which 220 (52%) were tenured/tenure-track. Groups M and B combined filled 810 doctoral positions this year, and 606 (75%) of these were tenured/tenure-track positions.

**Figure 1: Number of Full-Time Doctoral Positions under Recruitment
Groups I, II, III, Va, M, & B Combined, Fall 1992 to Fall 2004**

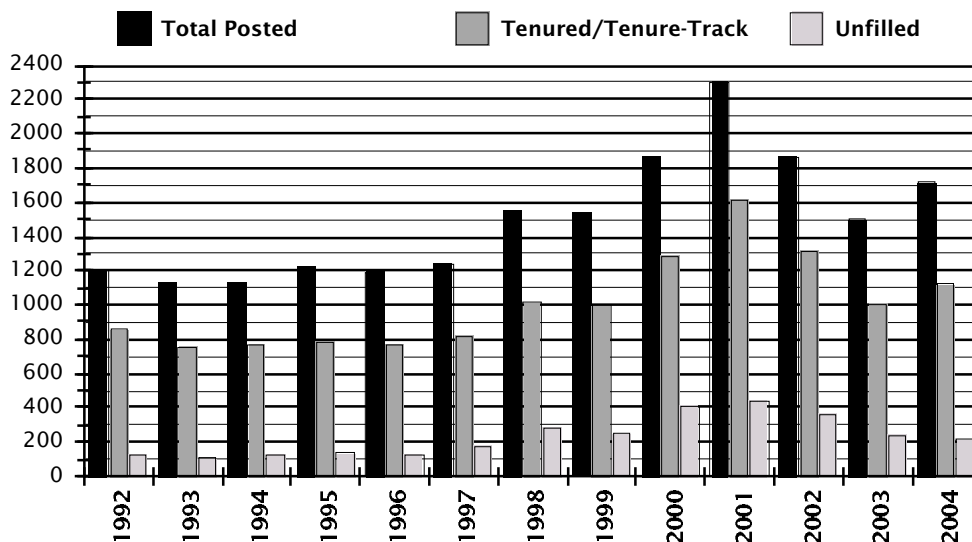
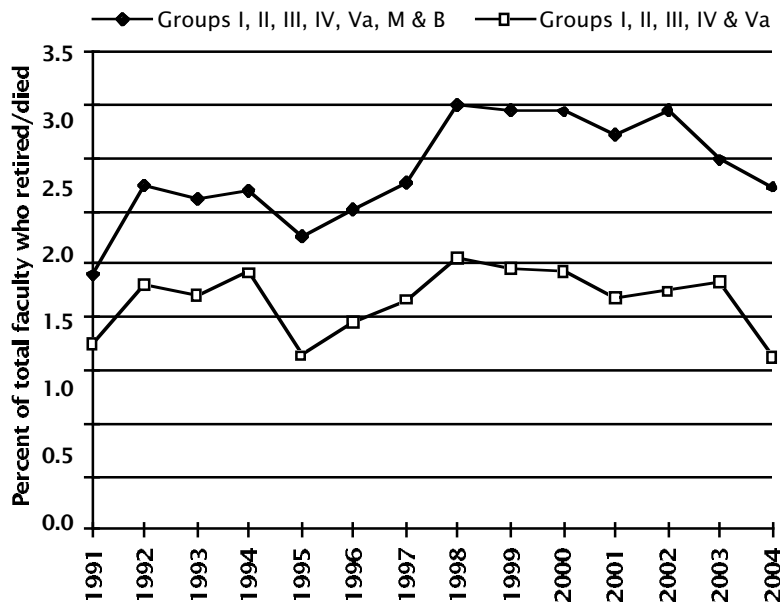


Table 3: Faculty Attrition,¹ Fall 2004

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
Full-time faculty who retired or died										
Total number (Standard error)	46	15	34	34	3	132	102 (16)	303 (44)	538 (47)	18
Percentage	2.6	1.6	1.4	1.6	1.1	1.7	2.5	3.6	2.7	1.2

¹ Number and percentage of full-time faculty who were in the department in fall 2003 but were reported to have retired or died by fall 2004.

Figure 2: Faculty Attrition



Last year these two groups filled 689 doctoral positions, of which 503 (73%) were tenured/tenure-track.

Beginning with the 2004 Annual Survey, departments were asked to report the number of doctoral hires in tenured/tenure-track positions filled by individuals who held a non-tenure-track position the previous year and of those, how many were postdoctoral appointments. For Groups I, II, III, and Va combined, 142 (66% of the 214 tenure-track hires) individuals reported having held a non-tenure-track position the previous year, with 112 (52%) individuals having held a postdoctoral appointment the previous year; last year 93 (42%) were filled by individuals who held a postdoctoral appointment the previous year. For Groups M and B combined, 258 (43% of the 606 tenure-track hires) individuals reported having held a non-tenure-track position the previous year, with 127 (21%) individuals having held a postdoctoral appointment the previous year; last year 188 (37%) were filled by individuals who held a postdoctoral appointment the previous year.

This year the estimated total number of new doctoral hires in mathematics departments is up 54% (590 from 384) from last year; it is up 33% (to 232 from 174) in Groups I, II, III, and Va combined, and up 70% (to 358 from 210) in Groups M and B combined. The number of new doctoral tenured/tenure-track hires is up 65% (318 from 193); it is up 12% (to 37 from 33) in Groups I, II, III, and Va combined, and up 76% (to 281 from 160) in Groups M and B combined. 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 (last year it was 19%), while in Groups M and B 79% of the new doctoral hires are in tenured/tenure-track positions (last year it was 76%).

The estimated number of not-new doctoral hires in mathematics departments is 754, up from 732 last year. The estimated total of not-new doctoral hires into tenured/tenure-track positions is down 5% in all the mathematics groups combined; it is down in Groups I, II, III, and Va combined (177 from 187 last year), and down in Groups M and B combined (325 from 344). This year the percentage of not-new doctoral recipients among those hired is about the same in both the doctoral and nondoctoral mathematics groups; in Groups I, II, III, and Va combined 57% of the positions hired went to not-new doctoral recipients (last year 59%), while in Groups M and B combined 56% of the positions hired went to not-new doctoral recipients (last year 69%).

From Table 2B we find that of the new doctoral recipients hired in Groups I, II, III, and Va combined, 13% of the males and 24% of the females took tenured/tenure-track positions. For new doctoral recipients hired in Groups M and B combined, 73% of the males and 87% of the females took tenured/tenure-track positions.

Figure 1 shows the number of full-time doctoral positions available in all groups except Group IV, as well as the number of those that were tenured/tenure-track and the number unfilled for the years 1992 to 2004. There was a sharp decrease in available positions in the first few years of the 1990s, but the number of positions and the number of tenured/tenure-track positions steadily increased, reaching a maximum in 2001; this

number declined the next two years and is slightly up this year.

This year the recruitment situation in statistics (Group IV) shows even more improvement than that in mathematics. The number of positions under recruitment is up 34% (to 180 from 134), the number of tenure-track positions under recruitment is up 44% (to 130 from 90), and the number of tenure-track positions open to new doctoral recipients under recruitment is up 61% (to 95 from 59). Except for the number of not-new doctoral hires into tenure-track positions, the number of hires in Group IV is generally improved over last year. The number of hires of new doctoral recipients is 65 (45 tenure-track) this year and 43 (30 tenure-track) last year, up 51% (50%) respectively. The number of not-new doctoral hires is 54 (27 tenure-track) this year and 48 (34 tenure-track) last year. Females were 51% of the new doctoral tenure-track hires and 37% of the not-new doctoral tenure-track hires; last year these percentages were 34% and 26% respectively.

Faculty Attrition

Table 3 displays losses of full-time mathematical sciences faculty due to retirements and deaths over the past year for each departmental grouping. The fall 2004 mathematics faculty attrition rate for Groups I, II, III, Va, M, and B combined is 2.7%, and in statistics (Group IV) it is 1.2%. For fall 2004, Group Va had the lowest attrition rate at 1.1%, while Group B the highest at 3.6%.

Figure 2 shows the trends in these attrition rates between 1991 and 2004. While the rates vary from group to group and from year to year within each group, the dominant trend over this time period has been one of increasing attrition. There is preliminary evidence of a change in the trend toward reduced attrition in the coming years. The trend in attrition rates for Groups I, II, II, IV, and Va (combined) roughly parallels the overall trend, though they are consistently lower.