

**Table 1: Faculty Attrition,<sup>1</sup> Fall 2001**

	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)	32	4	74	49	9	168	113 (12)	288 (42)	569 (43)	25
Percentage	1.8	0.5	3.0	2.4	3.1	2.3	2.6	3.6	2.9	1.8

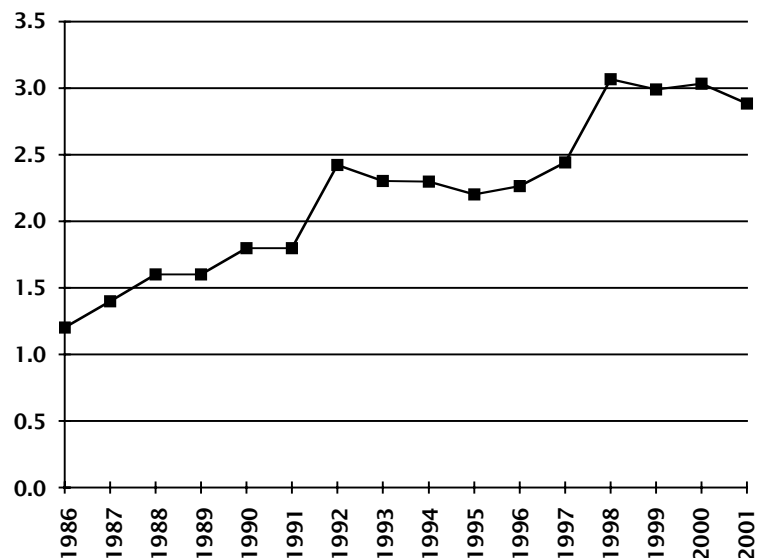
<sup>1</sup> Number and percentage of full-time faculty who were in the department in fall 2000 but were reported to have retired or died by fall 2001.

## Faculty Profile

The Departmental Profile, sent in fall 2001 to mathematical sciences departments at four-year colleges and universities as part of the Annual Survey, gathered information about faculties at these schools, which is reported in this section. The 2001 First Report presented data collected earlier about faculty salaries (pages 217-231 of the February 2002 issue of the *Notices of the AMS*.)

### Faculty Attrition

Table 1 displays losses of full-time mathematical sciences faculty due to retirements and deaths. The fall 2001 mathematics faculty attrition rate for Groups I, II, III, Va, M, and B combined was 2.9% compared with fall 2000, 1999, and 1998 values of 3.0%, 3.0%, and 3.1%. Group I Private had the lowest attrition rate at 0.5% and Group B the highest at 3.6%. These rates vary quite a bit from year to year for each of the groups. Figure 1 shows the

**Figure 1: Percent of Full-Time Doctoral Faculty Who Retired or Died in Groups I, II, III, Va, M, & B, Fall 1986 to Fall 2001****Table 2A: Recruitment of Doctoral Faculty, Fall 2001**

	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>										
Total number <sup>1</sup> (Standard error)	235	128	222	182	33	800	476 (49)	1038 (83)	2314 (96)	203
Tenured/tenure-track	86	38	107	137	17	385	436	797	1618	144
Open to new doctoral recipients	152	105	174	140	26	597	473	981	2051	143
Tenured/tenure-track	40	21	81	113	12	267	424	768	1459	114
Open at assoc/full level	45	15	29	42	7	138	93	101	332	75
<b>Reported Hires for Above</b>										
Total number	208	119	186	137	29	679	342	844	1865	131
Male doctoral hires	171	100	144	102	28	545	204	438	1187	85
Tenured/tenure-track	62	26	61	70	12	231	178	257	666	57
Female doctoral hires	32	19	37	32	1	121	88	225	434	45
Tenured/tenure-track	7	6	11	25	1	50	79	167	296	27
Male nondoctoral hires	2	0	4	1	0	7	24	118	149	1
Female nondoctoral hires	2	0	1	2	0	5	26	66	97	0
Total new doctoral hires	97	83	75	44	13	312	112	262	686	54
Male new doctoral hires	79	69	57	32	12	249	63	185	497	29
Tenured/tenure-track	3	6	9	25	5	48	56	103	207	29
Female new doctoral hires	18	14	18	12	1	63	49	77	189	25
Tenured/tenure-track	0	1	1	8	1	11	48	52	111	16
<b>Unfilled positions</b>	28	8	36	45	4	121	135	193	449	73
<b>Temporarily filled positions</b>										
Male	7	10	25	13	2	57	58	148	263	7
Female	1	0	3	7	0	11	45	103	159	5

<sup>1</sup> Number of full-time doctoral positions under recruitment in 2000-2001 to be filled for 2001-2002.

trend in this attrition rate for mathematics departments during the years 1986 to 2001.

### Faculty Recruitment

Table 2A contains detailed information on the number of full-time doctoral faculty positions in mathematical sciences departments under recruitment in 2000-2001 for employment beginning in the academic year 2001-2002. Among mathematics departments (Groups I, II, III, Va, M, and B), 2,314 positions were under recruitment in 2000-2001 for employment beginning in the academic year 2001-2002, up 23.5% compared to last year. Of those 2,314 positions, 2,051 (88.6%) were available to new doctoral recipients, and of those 2,051 positions, 1,459 (71.1%) were tenured/tenure-track positions. The 1,459 tenured/tenure-track positions open to new doctoral recipients was up from the 1,146 such positions under recruitment in 1999-2000.

Under the 'Reported Hires for Above' section in Table 2A, four new rows have been added giving the

number of positions that were tenured/tenure-track for various categories. This is the first year such information has been reported by the Annual Survey and there are some interesting and surprising results found in these data.

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. 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 Groups I, II, III, and Va combined filled 666 doctoral positions of which 281 (42.2%) were tenured/tenure-track positions. Groups M and B combined filled 955 doctoral positions of which 681 (71.3%) were tenured/tenure-track. From Table 2C we see that these same two percentages for new doctoral recipients only are 18.9% and 69.3% respectively. For other doctoral hires these same two percentages are 62.7% and 72.6% respectively.

From Table 2B we find that of the new doctoral recipients hired in groups I, II, III, and Va combined, 19.3% of the males and 17.5% of the females took tenured/tenure-track positions. For new doctoral recipients hired in Groups M and B combined, 64.1% of the males and 79.4% of the females took tenured/tenure-track positions. Even though 44.7% of the positions available in doctoral departments (Groups I, II, III, and Va) for new doctoral recipients were tenure-track positions, only 18.9% of the new doctoral recipients hired were given tenured/tenure-track positions. At the same time, 354 of those hired were not new doctoral recipients and 62.7% had tenured/tenure-track positions.

Figure 2 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 1990 to 2001. There was a sharp decrease in available positions in the first three years of the decade of the 1990s, but the number of positions and the number of tenured/tenure-track positions have been increasing since then.

**Table 2B: A Summary of Recruitment of Doctoral Faculty, Fall 2001**

	GROUP		
	I, II, III, & Va	M & B	IV
<b>Posted Doctoral Positions</b>			
Total number	800	1514	203
Tenured/tenure-track	385	1233	144
Open to new doctoral recipients	597	1454	143
Tenured/tenure-track	267	1192	114
<b>Reported Hires for Above</b>			
Total new doctoral hires	312	374	54
Tenured/tenure-track	59	259	45
Male	249	248	29
Tenured/tenure-track	48	159	29
Female	63	126	25
Tenured/tenure-track	11	100	16
Total not new doctoral hires	354	581	76
Tenured/tenure-track	222	422	39
Male	296	394	56
Tenured/tenure-track	183	276	28
Female	58	187	20
Tenured/tenure-track	39	146	11

**Table 2C: Percentage Tenured/Tenure-track for Positions Posted and Filled, Fall 2001**

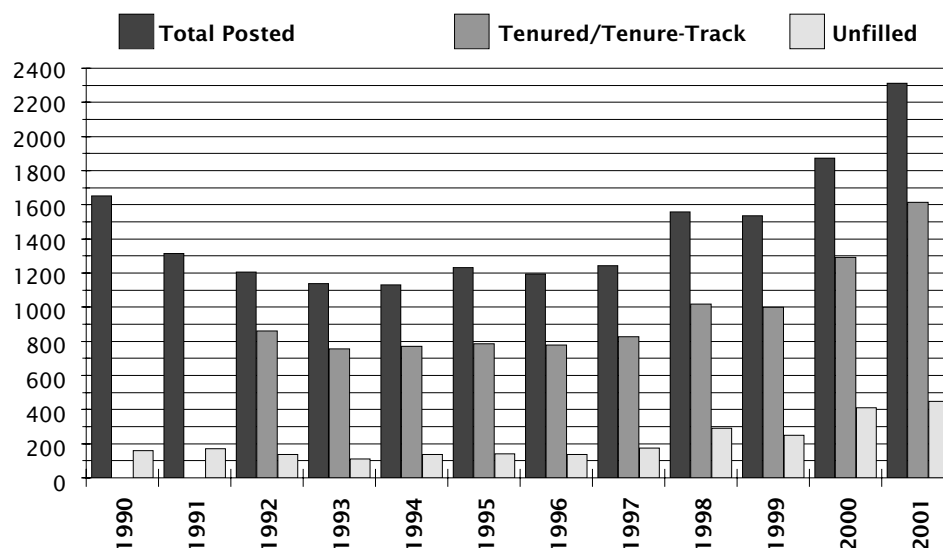
	GROUP		
	I, II, III, & Va	M & B	IV
<b>New Doctoral Positions</b>			
Positions posted	597	1454	143
% tenured/tenure-track	44.7	82.0	79.7
Positions filled	312	374	54
% tenured/tenure-track	18.9	69.3	83.3
<b>Not New Doctoral Positions</b>			
Positions posted	---	---	---
% tenured/tenure-track			
Positions filled	354	581	76
% tenured/tenure-track	62.7	72.6	51.3

### Faculty Size

Table 3A gives the number of faculty for different categories of faculty broken down by group. Table 3B gives the same information for females only. The estimated total number of full-time faculty in Groups I, II, III, Va, M, and B combined is 19,712, down 67 from last year. The standard error for the 19,712, available for the first time this year, is 285. We can be quite confident that the actual total number of faculty in these groups is in the interval 19,712 +/- 570. The doctoral departments I, II, III, and Va were up 133 full-time faculty members, Group M was down 439 faculty members, and

Group B was up 239. In a periodic reclassification of departments, several of last years Group M departments became Group B departments. This probably accounts for much of the drop in full-time faculty members at Group M departments and some of the increase in faculty at Group B departments. The standard errors for the total number of full-time faculty in Groups M and B are 118 and 260 respectively. These indicate there is substantial variation in the number of full-time faculty members in the departments in Groups M and B, even in departments at schools that have approximately the same total enrollments. The standard error for Group M indicates that there is a real drop in the number of faculty members in Group M de-

**Figure 2: Number of Full-Time Doctoral Positions under Recruitment: Total, Tenured/Tenure-Track, and Unfilled in Groups I, II, III, Va, M, & B Combined, Fall 1990 to Fall 2001**



Note: The tenured/tenure-track status of positions under recruitment was not surveyed until 1992.

**Table 3A: Faculty Size, Fall 2001**

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
Full-time faculty (Standard error)	1746	902	2456	2055	273	7432	4336 (118)	7944 (260)	19712 (285)	1416
Doctoral full-time faculty	1670	898	2205	1786	272	6831	3374	6169	16374	1379
Tenured	1171	537	1613	1318	139	4778	2346	4115	11239	836
Untenured, tenure-track	149	89	248	305	29	820	845	1550	3215	275
Non-tenure-track (Standard error)	350	272	344	163	104	1233	183 (24)	504 (73)	1920 (76)	268
Non-doctoral full-time faculty	76	4	251	269	1	601	962	1775	3338	37
Part-time faculty (Standard error)	214	53	459	719	22	1467	2393 (262)	4197 (297)	8057 (396)	171

**Table 3B: Female Faculty Size, Fall 2001**

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	I, II, III, Va, M, & B	IV
Full-time female faculty	209	92	409	407	27	1144	1368	2283	4795	340
Doctoral full-time female faculty	165	90	248	260	27	790	769	1527	3086	321
Tenured	73	26	119	142	7	367	465	870	1702	121
Untenured, tenure-track	21	12	45	79	6	163	261	510	934	94
Non-tenure-track	71	52	84	39	14	260	43	147	450	106
Non-doctoral full-time faculty	44	2	161	147	0	354	599	756	1709	19
Part-time female faculty	89	10	173	275	7	554	895	1803	3252	57

**Table 3C: Number and Percentage of Full-Time Faculty, Fall 2001**

	GROUP								Total All Groups
	I Public	I Private	II	III	Va	M	B	IV	
<b>Full-Time Faculty</b>									
Number	1746	902	2456	2055	273	4336	7944	1416	<b>21128</b>
Percentage of total full-time faculty	8.3	4.3	11.6	9.7	1.3	20.5	37.6	6.7	<b>100.0</b>
<b>Female Full-Time Faculty</b>									
Number	209	92	409	407	27	1368	2283	340	<b>5135</b>
Percentage of female full-time faculty	4.1	1.8	8.0	7.9	0.5	26.6	44.5	6.6	<b>100.0</b>
<b>Female Full-Time Faculty</b> Percentage female full-time faculty by group	12.0	10.2	16.7	19.8	10.0	31.5	28.7	24.0	<b>24.3</b>

**Table 3D: Number, and Percentage of Those Female, of Non-tenure-track Doctoral Full-Time Faculty and Part-Time Faculty by Group, Fall 1996 to Fall 2001**

	1996	1997	1998	1999	2000	2001
<b>Groups I, II, III, &amp; Va</b>						
Non-tenure-track doctoral full-time faculty	672	708	904	1014	993	1233
Percentage female	24.9	21.5	20.7	21.7	20.6	21.1
Part-time faculty	1093	954	1141	1217	1399	1467
Percentage female	36.7	36.8	38.0	37.8	37.0	37.8
<b>Group M</b>						
Non-tenure-track doctoral full-time faculty	138	216	140	146	262	183
Percentage female	23.9	29.6	27.1	56.2	29.0	23.5
Part-time faculty	1879	1612	1768	1906	2323	2393
Percentage female	41.4	45.5	42.8	35.2	36.2	37.4
<b>Group B</b>						
Non-tenure-track doctoral full-time faculty	419	385	427	514	407	504
Percentage female	22.9	26.2	31.1	23.7	30.2	29.2
Part-time faculty	3055	3107	3585	3298	3580	4197
Percentage female	44.0	46.0	42.3	40.7	40.4	43.0

partments. Although Group B was up 239 full-time faculty this year, there may not be a actual change

as this increase is well within the variability we expect with a standard error of 260.

**Table 3E: Summary of Full-Time and Part-Time Faculty by Sex, Fall 2001**

	GROUP					
	I, II, III, & Va		M & B		IV	
	Male	Female	Male	Female	Male	Female
Full-time faculty	6288	1144	8629	3651	1076	340
Percentage	84.6	15.4	70.3	29.7	76.0	24.0
Doctoral full-time faculty	6041	790	7247	2296	1058	321
Percentage	88.4	11.6	75.9	24.1	76.7	23.3
Tenured	4411	367	5126	1335	715	121
Percentage	92.3	7.7	79.3	20.7	85.5	14.5
Untenured, tenure-track	657	163	1624	771	181	94
Percentage	80.1	19.9	67.8	32.2	65.8	34.2
Non-tenure-track	973	260	497	190	162	106
Percentage	78.9	21.1	72.3	27.7	60.4	39.6
Non-doctoral full-time faculty	247	354	1382	1355	18	19
Percentage	41.1	58.9	50.5	49.5	48.6	51.4
Part-time faculty	913	554	3892	2698	114	57
Percentage	62.2	37.8	59.1	40.9	66.7	33.3

Table 3C gives some percentages based on the information in tables 3A and 3B.

The number of non-tenure-track doctoral full-time faculty and the number of part-time faculty have been increasing in recent years. Table 3D gives a six-year history of these two types of 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. This increase in non-tenure-track full-time doctoral positions continues a disturbing trend reported in "Changes in Mathematics Faculty Composition, Fall 1990-Fall 1996" (James W. Maxwell, *Notices of the AMS*, November 1997, pages 1321-3). Tables 2B and 2C have information in them that may help in

understanding this issue. They give details about the doctoral hires for fall 2001 and how many were tenured/tenure-track positions. There has also been substantial growth in part-time faculty in recent years.

Table 3E gives a summary of the various types of faculty found in departments of mathematical sciences by sex and group. Non-doctoral full-time faculty have been added to this table this year and make the partition of full-time faculty complete.

Tables 3F and 3G give more information about two types of faculty: full-time faculty without a doctorate and part-time faculty. The top half Table 3F is a somewhat condensed version of the doctoral full-time faculty in Table 3A broken down by sex. The bottom half of Table 3F shows this same information for the 3,338 full-time faculty who do not have doctoral degrees. The majority of these faculty, 2,737 (82.0%), are found in Group M and B departments.

There are 8,057 part-time faculty in the mathematical sciences departments in Groups I, II, III, Va, M, and B. Table 3G shows where these part-time faculty are found broken down by sex and whether they have a doctoral degree.

With the addition of new information gathered in this year's annual survey, and the addition of three new tables in this section, this report contains the most complete picture of the faculty in mathematical sciences in the U.S. that has ever been published in this series of reports.

### Faculty Profile for Females

Table 3B gives a complete breakdown of all categories of female faculty by group. The total number of full-time faculty in all groups for 2001-2002 is 21,128, of which 5,135 (24.3%) are females.

Table 3C shows the number and percentage of all full-time and female full-time faculty that fall in each group for 2001-2002. The number of faculty in each group and the percentage who are female is given in the bottom section of Table 3C. The number of females as a percentage of full-time

**Table 3F: Doctoral and Non-doctoral Full-Time Faculty Size, Fall 2001**

	GROUP					
	I, II, III, & Va		M & B		Total	
	Male	Female	Male	Female	Male	Female
<b>Doctoral full-time faculty</b>	<b>6041</b>	<b>790</b>	<b>7247</b>	<b>2296</b>	<b>13288</b>	<b>3086</b>
Tenured	4411	367	5126	1335	9537	1702
Untenured, tenure-track	657	163	1624	771	2281	934
Non-tenure-track	973	260	497	190	1470	450
<b>Non-doctoral full-time faculty</b>	<b>247</b>	<b>354</b>	<b>1382</b>	<b>1355</b>	<b>1629</b>	<b>1709</b>
Tenured	22	15	516	262	538	277
Untenured, tenure-track	4	3	149	171	153	174
Non-tenure-track	221	336	717	922	938	1258

faculty varies considerable among the groups, from 10.2% and 10.0% for Groups I Private and Va to 31.5% and 28.7% for Groups M and B respectively. This is the same pattern as reported last year. Note: In Table 3C, the percentages for each group in rows 2 and 4 are of the row totals. The percentages in row 6 are column percentages using the numbers in rows 1 and 3.

Table 3D contains information about non-tenure-track doctoral full-time faculty and part-time faculty for the years 1996 to 2001 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 female for each number.

Table 3E gives the male/female breakdown by count and percentage for Groups I, II, III, and Va combined for various categories of faculty in columns 2 and 3. The same breakdowns are given for Groups M and B combined in columns 4 and 5 and for Group IV in columns 6 and 7.

Table 3F shows that of the 3,338 non-doctoral full-time faculty in Groups I, II, III, Va, M, and B, 1,709 (51.2%) are females. In Table 3G we see that in these same groups there are 8,057 part-time faculty, of which 3,252 (40.4%) are females.

**Table 3G: Part-Time Faculty Size, Fall 2001**

	GROUP				
	I, II, III, & Va		M & B		TOTAL
	Male	Female	Male	Female	
Doctoral part-time faculty	384	142	833	222	<b>1581</b>
Non-doctoral full-time faculty	529	412	3059	2476	<b>6476</b>
<b>Total</b>	<b>913</b>	<b>554</b>	<b>3892</b>	<b>2698</b>	<b>8057</b>

**Table 4A: Undergraduate and Graduate Enrollments (thousands), Fall 2001**

	GROUP									
	I Public	I Private	II	III	Va	I, II, III, & Va	M	B	IV	Total All Groups
<b>Undergraduate Course Enrollments</b>										
Total number (thousands)	176	42	279	246	12	755	513	743	81	2092
(Standard error)							(19)	(25)		(32)
<b>Graduate Course Enrollments</b>										
Total number (thousands)	7	5	9	9	2	32	14		26	72