

# SEVENTEENTH

## ANNUAL AMS SURVEY

This is a reprint of the first of three articles that appeared in the *Notices of the American Mathematical Society* in October, November, and December 1973. Reprints of the other two articles are available upon request.

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## SEVENTEENTH ANNUAL AMS SURVEY

The information on the following page is the first part of a report on the Seventeenth Annual AMS Survey. A further report will appear in the November issue of these *Notices*.

As has been the practice for several years, questionnaires were sent this year to departments in the mathematical sciences, asking for information on salaries. The two-year colleges were sent a form which allowed them to report salaries without regard to academic rank, because many of the junior colleges do not rank their teaching staffs. These results are included in a listing under "two-year colleges". For the reports on salaries and on graduate student support, the departments are divided into groups according to the highest degree offered in the mathematical sciences.

The Doctorate granting departments are now in six, rather than four groups. In past Surveys the mathematics departments and other departments in the mathematical sciences have been grouped together; this year they have been separated. In this year's Survey the Canadian universities are in a group of their own, rather than in groups with U. S. A. universities; all doctorate-granting Canadian departments in the mathematical sciences are in the same group as departments of mathematics. The new groupings are as follows:

Group I and Group II include the leading departments of mathematics according to the findings of the American Council of Education in 1969\* in which departments were ranked according to the quality of their graduate faculty. Group

I is composed of the 27 departments ranked highest; Group II is made up of the other 38 leading departments listed in that report.

Group III contains all other U. S. A. departments of mathematics.

Group IV includes departments of statistics, biostatistics and biometrics.

Group V includes all other departments in the mathematics sciences.

Group VI consists of all departments in the mathematical sciences from Canadian universities.

The total number of departments in the mathematical sciences in the various groups are given below. Only doctorate granting Canadian departments are grouped separately, the two-year colleges and those granting bachelor and master degrees are included with U. S. departments.

<u>Type of Department</u>	<u>Number of Departments</u>	
Doctorate Granting		
Group I	27	
Group II	38	
Group III	89	
Group IV	60	
Group V	88	
Group VI	<u>33</u>	335
Master Degree Granting		310
Bachelor Degree Granting		1,080
Two-Year Colleges		<u>780</u>
Total		2,505

### Faculty Salaries

This Survey is the seventeenth in an annual series begun in 1957 by the Society's Committee on the Economic Status of Teachers. The present Survey is under the direction of the Committee on Employment and Educational Policy.

Departments submitted a minimum, median, and maximum salary figure for each of four academic ranks, both for staff members with and without doctorates, creating forty-eight categories of salary figures. In some categories, relatively few departments reported and, inasmuch as there were no significant figures available, salaries are not listed. This year's Survey for the first time contains figures on the number of women faculty members and the number of staff members with tenure; these are given by academic rank.

The 1973 Survey is based on returns from 806 departments in the mathematical sciences;

the departments include 104 two-year colleges which do not classify staff according to academic rank.

#### NUMBER OF FACULTY POSITIONS REPRESENTED IN SALARY SURVEY

	1972-1973	1973-1974
<u>Doctorate, Master and Bachelor Granting Departments</u>		
Total Faculty	8179	8189
With Tenure	4709	5030
Women	699	701
With Tenure	354	370
<u>Two-Year Colleges</u>		
Total Faculty	1184	1180
With Tenure	759	776

\*The findings were published in "A Rating of Graduate Programs" by Kenneth D. Roose and Charles J. Anderson, American Council of Education, Washington, D. C., 1969, 115 pp. The information on mathematics was reprinted by the Society and can be found on pages 338-340 of the February 1971 issue of these *Notices*.

The data in the parentheses give the range of the middle fifty percent of salaries reported. The figures outside the parentheses represent the minimum and maximum salary listed by any reporting institution.

**SIZE OF FACULTY**  
**SALARIES**  
*(in hundreds of dollars)*

		1972—1973		1973—1974		1972—1973		1973—1974		Number of Usable Returns:						
		FACULTY		FACULTY		FACULTY		FACULTY		Number of Usable Returns:						
		WOMEN		WOMEN		WOMEN		WOMEN		Number of Usable Returns:						
		With Tenure		With Tenure		With Tenure		With Tenure		Number of Usable Returns:						
		Total	With	Total	With	Total	With	Total	With	Minimum	Maximum					
		Tenure	Tenure	Tenure	Tenure	Tenure	Tenure	Tenure	Tenure	Minimum	Maximum					
<b>DOCTORATE GRANTING DEPARTMENTS. Group I</b>																
WITH DOCTORATE																
Instructor	51	0	2	0	68	0	6	0	95	(105-112)	(105-113)	100	(105-115)	(108-115)	(110-115)	126
Asst. Prof.	174	4	11	2	151	4	13	2	109	(110-115)	(118-126)	110	(114-120)	(125-133)	(133-147)	165
Asso. Prof.	188	179	8	7	204	190	8	7	125	(136-146)	(152-160)	132	(135-152)	(154-167)	(174-198)	216
Professor	422	422	5	5	436	434	5	5	148	(161-190)	(230-256)	158	(174-196)	(240-268)	(340-360)	395
	835	605	26	14	859	628	32	14								
<b>DOCTORATE GRANTING DEPARTMENTS. Group II</b>																
WITHOUT DOCTORATE																
Instructor	44	12	16	5	35	11	12	5	64	(81-113)	(89-113)	80	(97-115)	(100-115)	(107-115)	145
WITH DOCTORATE																
Instructor	18	0	1	0	28	0	3	0								
Asst. Prof.	384	18	17	3	337	20	19	3	87	(110-120)	(118-132)	90	(110-120)	(124-135)	(135-151)	196
Asso. Prof.	295	247	11	10	322	263	12	12	114	(132-140)	(148-158)	114	(137-148)	(154-166)	(172-194)	251
Professor	349	344	9	9	357	351	8	8	140	(164-190)	(212-240)	140	(171-199)	(216-248)	(288-321)	440
	1046	609	38	22	1044	634	42	23								
<b>DOCTORATE GRANTING DEPARTMENTS. Group III</b>																
WITHOUT DOCTORATE																
Instructor	97	19	26	7	77	17	26	6	70	(82-97)	(84-100)	70	(83-99)	(85-105)	(89-108)	125
Asst. Prof.	69	52	25	21	63	47	24	21	81	(97-122)	(104-125)	88	(107-128)	(107-132)	(113-135)	149
Asso. Prof.	51	50	5	5	49	48	4	4	104	(125-137)	(134-155)	111	(128-155)	(140-158)	(143-170)	188
Professor	24	24	1	1	20	18	1	1	136	(150-171)	(150-171)	136	(163-182)	(175-200)	(175-219)	325
	241	145	57	34	209	130	55	32								
WITH DOCTORATE																
Instructor	20	0	4	0	22	0	5	0	70	(90-105)	(94-105)	81	(95-105)	(95-105)	(101-106)	110
Asst. Prof.	506	58	20	6	462	58	21	4	90	(110-120)	(121-130)	81	(110-123)	(127-134)	(136-147)	178
Asso. Prof.	451	365	16	14	484	416	16	15	110	(128-148)	(146-161)	120	(135-152)	(155-170)	(168-194)	215
Professor	387	361	12	12	401	383	12	12	140	(162-184)	(191-223)	146	(168-190)	(204-227)	(231-298)	352
	1364	784	52	32	1369	857	54	31								

**DOCTORATE GRANTING DEPARTMENTS. Group IV**

WITHOUT DOCTORATE										Number of Usable Returns: 30			
Instructor	13	0	6	0	11	0	3	0	54(85-115)	(86-115)	57(93-94)	(94-110)	(94-115)121
WITH DOCTORATE		6	1	0	4	0	0	0	104(115-129)	(127-140)	104(117-134)	(130-144)	(134-155)183
Asst. Prof.	119	8	4	0	106	4	3	0	128(144-163)	(156-180)	121(149-166)	(160-180)	(180-191)214
Asso. Prof.	96	82	1	1	104	87	1	1	150(187-212)	(219-259)	152(196-223)	(225-250)	(280-300)410
Professor	136	132	2	2	143	140	2	2					
	357	222	3	3	357	231	6	3					

**DOCTORATE GRANTING DEPARTMENTS. Group V**

WITHOUT DOCTORATE										Number of Usable Returns: 20			
Instructor	5	0	0	0	3	0	0	0	95(95-116) <th>(100-116) <th>100(100)</th> <th>(105)</th> <th>(110)110</th> </th>	(100-116) <th>100(100)</th> <th>(105)</th> <th>(110)110</th>	100(100)	(105)	(110)110
Asst. Prof.	89	2	4	1	90	2	10	1	75(122-133)	(130-145)	100(126-140)	(133-153)	(140-160)190
Asso. Prof.	85	54	0	0	88	53	4	2	130(145-158)	(150-169)	130(150-170)	(159-178)	(170-190)250
Professor	92	90	0	0	98	96	0	0	155(190-210)	(210-245)	168(199-215)	(220-248)	(246-303)385
	271	146	4	1	279	151	14	3					

**DOCTORATE GRANTING DEPARTMENTS. Group VI**

WITHOUT DOCTORATE										Number of Usable Returns: 11			
Instructor	2	0	0	0	2	0	0	0	95(96-109) <th>(107-120) <th>98(104-120) <th>(120-131) <th>(131-150)166</th> </th></th></th>	(107-120) <th>98(104-120) <th>(120-131) <th>(131-150)166</th> </th></th>	98(104-120) <th>(120-131) <th>(131-150)166</th> </th>	(120-131) <th>(131-150)166</th>	(131-150)166
Asst. Prof.	135	20	3	1	124	24	2	1	118(125-132)	(136-155)	119(133-140)	(148-173)	(173-197)252
Asso. Prof.	137	119	4	3	149	127	4	3	156(168-197)	(211-225)	172(176-208)	(225-242)	(241-283)314
Professor	90	89	1	1	95	94	1	1					
	364	228	8	5	370	245	7	5					

**MASTER DEGREE GRANTING DEPARTMENTS**

WITHOUT DOCTORATE										Number of Usable Returns: 116			
Instructor	227	55	82	17	181	48	82	18	68(83-124) <th>(89-108) <th>72(86-110) <th>(91-110) <th>(99-117)142</th> </th></th></th>	(89-108) <th>72(86-110) <th>(91-110) <th>(99-117)142</th> </th></th>	72(86-110) <th>(91-110) <th>(99-117)142</th> </th>	(91-110) <th>(99-117)142</th>	(99-117)142
Asst. Prof.	270	193	62	44	280	212	58	48	72(100-118)	(107-124)	80(105-124)	(111-130)	(116-140)172
Asso. Prof.	149	140	12	12	157	151	11	11	90(120-141)	(126-151)	92(122-147)	(128-160)	(134-171)196
Professor	42	40	2	2	44	43	0	0	124(155-173)	(156-181)	140(162-180)	(166-190)	(168-203)236
	688	428	158	75	662	454	151	77					
WITH DOCTORATE		5	0	0	5	0	1	0	83(110-127)	(117-134)	95(113-130)	(122-138)	(129-150)208
Asst. Prof.	437	63	29	5	422	89	32	8	87(132-150)	(139-164)	89(136-155)	(145-168)	(153-179)260
Asso. Prof.	379	290	30	25	416	340	35	29	93(158-192)	(175-203)	95(162-200)	(178-208)	(191-230)320
Professor	286	261	13	12	305	287	13	12					
	1107	614	72	42	1148	716	81	49					

**SIZE OF FACULTY**

1972—1973		1973—1974	
FACULTY		FACULTY	
With	Without	With	Without
Total	Total	Total	Total
903	478	843	479
172	79	155	80

**BACHELOR DEGREE GRANTING DEPARTMENTS**

	1972—1973		1973—1974		Total	With Tenure	Without Tenure	Total	With Tenure	Without Tenure	Total	Minimum	Median	Maximum	Number of Usable Returns:
	With	Without	With	Without											
<b>WITHOUT DOCTORATE</b>															
Instructor	195	19	57	5	166	18	41	2	65	(85-101)	(86-102)	(95-104)166	70	(90-108)	(92-110)150
Asst. Prof.	431	204	66	31	394	203	65	33	75	(95-110)	(99-114)	(102-121)201	80	(102-120)	(105-128)180
Asso. Prof.	209	194	36	31	219	198	35	32	74	(110-135)	(111-137)	(115-140)231	74	(115-144)	(118-150)231
Professor	68	61	13	12	64	60	14	13	95	(121-160)	(122-168)	(122-168)270	100	(129-178)	(129-178)271
	903	478	172	79	843	479	155	80							
<b>WITH DOCTORATE</b>															
Instructor	6	0	1	0	7	0	0	0	78	(103-120)	(105-122)	(108-128)201	81	(105-122)	(110-132)201
Asst. Prof.	422	37	32	4	432	45	34	2	85	(121-143)	(123-147)	(124-150)236	100	(129-150)	(135-152)249
Asso. Prof.	256	158	19	11	292	198	22	16	92	(145-187)	(150-187)	(152-198)295	93	(155-196)	(156-202)295
Professor	262	243	30	27	272	251	33	30	1003	494					
	946	438	82	42	1003	494	89	48							

**TWO-YEAR COLLEGES**

WITHOUT DOCTORATE		WITH DOCTORATE	
Total	With Tenure	Total	With Tenure
1108	720	76	39

**TWO-YEAR COLLEGES. STAFF CLASSIFIED BY ACADEMIC RANK**

	1972—1973		1973—1974		Total	With Tenure	Without Tenure	Total	With Tenure	Without Tenure	Total	Minimum	Median	Maximum	Number of Usable Returns:
	With	Without	With	Without											
<b>WITHOUT DOCTORATE</b>															
Instructor	208	76	181	70	257	140	117	66	66	(86-108)	(92-113)	(95-120)180	75	(96-118)	(98-125)206
Asst. Prof.	215	124	227	124	354	251	103	78	78	(98-117)	(107-130)	(110-139)180	81	(110-130)	(114-140)182
Asso. Prof.	137	110	149	123	276	223	53	89	89	(114-141)	(118-150)	(125-164)202	79	(131-160)	(134-169)216
Professor	60	56	63	60	123	60	63	76	76	(120-165)	(132-167)	(140-181)220	78	(146-179)	(150-191)230
	620	366	620	377	997	553	444	1044	553	444	1044				

\*Information covering the number of women on the faculty of two-year colleges was not collected.

### Graduate Student Support

The figures below represent the major sources of support (excluding tuition) of full-time graduate students enrolled for advanced degrees in 1972-1973 and estimates for 1973-1974. The type of support has been converted into percentages, with the total number of students represented by the sample given in the last column.

Because replies from Canadian doctorate-granting

departments have been listed separately from the U.S. figures, it is possible to compare the U.S. figures with data previously collected by the National Science Foundation. See the article entitled, "Sources of graduate student support, Fall 1972" in the May 1973 issue of the Newsletter of the Conference Board of the Mathematical Sciences (page 15).

SUPPORT SOURCES	STUDENTS PRIMARILY SUPPORTED BY				Total number of students in sample
	Fellowships and Traineeships	Graduate Research Assistantships	Graduate Teaching Assistantships	Other types of support	
<b>DOCTORATE GRANTING DEPARTMENTS</b>					
Group I (17 returns/27 depts.)					
1972-1973					1896
Government	12.0%	7.0%	10.0%	2.0%	
Other Sources	10.5%	1.0%	39.0%	18.5%	
1973-1974					1752
Government	8.6%	5.9%	11.6%	3.7%	
Other Sources	10.4%	0.5%	40.3%	19.0%	
Group II (31 returns/38 depts.)					
1972-1973					2031
Government	5.5%	1.0%	2.0%	2.0%	
Other Sources	3.7%	1.3%	64.8%	19.6%	
1973-1974					1925
Government	3.1%	1.7%	2.0%	1.1%	
Other Sources	3.8%	1.7%	65.8%	21.8%	
Group III (57 returns/89 depts.)					
1972-1973					2115
Government	3.9%	1.0%	10.0%	2.9%	
Other Sources	5.2%	1.4%	54.9%	20.7%	
1973-1974					2119
Government	2.4%	0.8%	11.7%	1.0%	
Other Sources	5.0%	0.9%	54.0%	24.2%	
Group IV (30 returns/60 depts.)					
1972-1973					932
Government	18.0%	7.2%	9.0%	0.9%	
Other Sources	6.1%	9.6%	22.1%	27.1%	
1973-1974					986
Government	12.0%	8.7%	8.6%	1.0%	
Other Sources	6.2%	9.8%	23.9%	29.8%	
Group V (37 returns/88 depts.)					
1972-1973					1123
Government	5.1%	24.4%	0%	1.6%	
Other Sources	7.6%	3.9%	17.4%	40.0%	
1973-1974					1171
Government	4.2%	21.8%	0%	1.1%	
Other Sources	8.5%	2.6%	17.2%	44.6%	
Group VI (13 returns/33 depts.)					
1972-1973					640
Government	17.4%	12.7%	24.4%	12.3%	
Other Sources	2.5%	1.7%	17.5%	11.5%	
1973-1974					642
Government	16.8%	16.8%	23.2%	11.1%	
Other Sources	3.7%	1.8%	18.4%	8.2%	
<b>MASTER DEGREE GRANTING DEPARTMENTS</b>					
U.S.A. and CANADA (109 returns/310 depts.)					
1972-1973					1254
Government	4.7%	1.6%	7.4%	3.7%	
Other Sources	2.1%	2.1%	40.0%	38.4%	
1973-1974					1333
Government	1.8%	0.2%	7.3%	1.2%	
Other Sources	2.2%	1.8%	40.6%	44.9%	

## Starting Salary Survey for New Recipients of the Doctorate

The latest figures in this Survey were compiled from questionnaires sent to individuals who received a doctorate in the mathematical sciences during the academic year 1972-1973 from universities in the United States and Canada. Of the 1,000 distributed there were 412 returns considered usable in the salary compilation, i. e., compatible with the Survey categories, 365 representing men and 47 representing women. Of the unused returns 4 representing women and 29 representing men were unemployed at the time of reporting. Another large group of unused returns were from those who accepted positions in a foreign country, 4 women and 38 men; in some cases these were foreign nationals returned to their homeland after completion of studies in the United States.

Figures in parentheses and brackets represent men and women respectively. Figures have been compiled representing men and women separately since 1971. This year a new category is included, representing the salaries of men and women with experience limited to one year or less in the same or a similar position to the one reported;

some persons receiving a doctorate in the past year had been employed in their present position for several years.

Seventy-seven percent of the doctorates included in this report accepted academic positions. Of the remainder, 13% accepted positions in industry and 8% in government.

Of those reporting academic positions, 47% were held in doctoral granting departments, 25% in departments granting the master's as highest degree, 23% in bachelor granting departments, 2% in junior colleges and 1% in high schools.

Of all of those reporting, including those not used in the salary compilations, 79% accepted jobs in the United States, 5% in Canada, 8% in other countries and 7% were unemployed at the time of reporting.

Salaries are listed in hundreds of dollars. Dashes indicate that not enough returns were received to warrant including the figures here. Quartiles are indicated for teaching, nine-month salary. The years listed refer to the academic year ending in the listed year.

TEACHING (185 + 25) (Nine-Month Salary)						TEACHING (24 + 3) (Twelve-Month Salary)				RESEARCH (10 + 0) (Nine-Month Salary)			
Year	Min.	Q <sub>1</sub>	Median	Q <sub>3</sub>	Max.	Year	Min.	Median	Max.	Year	Min.	Median	Max.
1970	85		110		195	1970	95	128	200	1970	78	105	160
1971	70	105	110	120	178	1971	80	126	190	1971	90	110	153
1972	61	105	115	125	192	1972	92	124	210	1972	60	111	155
1973	60	107	116	127	178	1973	104	127	270	1973	30	110	120
1971M	75	105	110	120	178	1971M	80	127	190	1971M	90	110	153
1971F	70	95	105	108	148	1971F	--	110	---	1971F	105	---	120
1972M	61	105	115	125	192	1972M	92	125	210	1972M	---	---	---
1972F	94	105	110	125	192	1972F	103	104	120	1972F	---	---	---
1973M	60	108	116	128	178	1973M	104	133	270	1973M	30	110	120
1973F	60	105	115	124	150	1973F	105	116	127	1973F	---	---	---
1 year experience [140 + 18]						1 year experience [10 + 3]				1 year experience [10 + 0]			
*1973M	60	105	115	125	150	*1973M	110	121	148	*1973M	30	110	120
*1973F	60	100	112	118	130	*1973F	105	116	127	*1973F	---	---	---

  

RESEARCH (15 + 2) (Twelve-Month Salary)				TEACHING & RESEARCH (33 + 8) (Nine-Month Salary)				TEACHING & RESEARCH (9 + 0) (Twelve-Month Salary)			
Year	Min.	Median	Max.	Year	Min.	Median	Max.	Year	Min.	Median	Max.
1970	90	120	205	1970	90	106	120	---	---	---	---
1971	60	120	181	1971	88	110	156	1971	100	137	165
1972	50	125	180	1972	95	115	160	1972	100	125	205
1973	90	150	176	1973	90	117	170	1973	85	159	172
1971M	60	120	181	1971M	---	---	---	1971M	100	150	165
1971F	60	---	60	1971F	---	---	---	1971F	---	120	---
1972M	50	126	180	1972M	100	116	160	1972M	100	127	185
1972F	100	---	125	1972F	95	105	135	1972F	106	---	205
1973M	90	150	176	1973M	90	117	170	1973M	85	159	172
1973F	120	---	172	1973F	105	113	135	1973F	---	---	---
1 year experience [11 + 2]				1 year experience [30 + 8]				1 year experience [6 + 0]			
*1973M	90	150	176	*1973M	90	116	150	*1973M	85	155	167
*1973F	120	---	172	*1973F	105	113	135	1973F	---	---	---

  

FELLOWSHIP (10 + 1) (Twelve-Month Salary)				INDUSTRY (49 + 3) (Twelve-Month Salary)				GOVERNMENT (30 + 5) (Twelve-Month Salary)			
Year	Min.	Median	Max.	Year	Min.	Median	Max.	Year	Min.	Median	Max.
1970	60	86	120	1970	96	170	235	1970	100	150	223
1971	---	---	---	1971	99	170	252	1971	117	151	290
1972	---	---	---	1972	118	181	296	1972	70	155	315
1973	85	100	150	1973	119	180	250	1973	95	168	250
1971M	---	---	---	1971M	99	167	252	1971M	117	160	290
1971F	---	---	---	1971F	192	---	240	1971F	140	---	150
1972M	---	---	---	1972M	118	181	296	1972M	70	155	315
1972F	---	---	---	1972F	---	---	---	1972F	110	156	160
1973M	85	100	150	1973M	119	180	250	1973M	95	169	250
1973F	---	100	---	1973F	168	170	171	1973F	120	140	173
1 year experience [10 + 1]				1 year experience [33 + 3]				1 year experience [17 + 4]			
*1973M	85	100	150	*1973M	119	180	210	*1973M	95	142	216
*1973F	---	100	---	*1973F	160	170	171	*1973F	120	130	160

\*Experience limited to one year in same or similar positions.