

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.

SALARIES
(in hundreds of dollars)

1972—1973		1973—1974		1974—1975	
FACULTY		FACULTY		FACULTY	
With	Without	With	Without	With	Without
Total	Tenure	Total	Tenure	Total	Tenure

1972—1973		1973—1974		1974—1975	
Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
105-114	125	105-113	125	105-115	126
118-126	160	118-126	160	118-126	165
152-160	207	152-160	207	152-160	216
230-256	385	230-256	385	230-256	395
95(105-112)	6	95(105-112)	6	95(105-112)	6
109(110-115)	4	109(110-115)	4	109(110-115)	4
125(136-146)	8	125(136-146)	8	125(136-146)	8
148(161-190)	5	148(161-190)	5	148(161-190)	5
	14		14		14
	32		32		32

1972—1973		1973—1974		1974—1975	
Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
105-114	125	105-113	125	105-115	126
118-126	160	118-126	160	118-126	165
152-160	207	152-160	207	152-160	216
230-256	385	230-256	385	230-256	395
95(105-112)	6	95(105-112)	6	95(105-112)	6
109(110-115)	4	109(110-115)	4	109(110-115)	4
125(136-146)	8	125(136-146)	8	125(136-146)	8
148(161-190)	5	148(161-190)	5	148(161-190)	5
	14		14		14
	32		32		32

1972—1973		1973—1974		1974—1975	
Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
105-114	125	105-113	125	105-115	126
118-126	160	118-126	160	118-126	165
152-160	207	152-160	207	152-160	216
230-256	385	230-256	385	230-256	395
95(105-112)	6	95(105-112)	6	95(105-112)	6
109(110-115)	4	109(110-115)	4	109(110-115)	4
125(136-146)	8	125(136-146)	8	125(136-146)	8
148(161-190)	5	148(161-190)	5	148(161-190)	5
	14		14		14
	32		32		32

1972—1973		1973—1974		1974—1975	
Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
105-114	125	105-113	125	105-115	126
118-126	160	118-126	160	118-126	165
152-160	207	152-160	207	152-160	216
230-256	385	230-256	385	230-256	395
95(105-112)	6	95(105-112)	6	95(105-112)	6
109(110-115)	4	109(110-115)	4	109(110-115)	4
125(136-146)	8	125(136-146)	8	125(136-146)	8
148(161-190)	5	148(161-190)	5	148(161-190)	5
	14		14		14
	32		32		32

1972—1973		1973—1974		1974—1975	
Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
105-114	125	105-113	125	105-115	126
118-126	160	118-126	160	118-126	165
152-160	207	152-160	207	152-160	216
230-256	385	230-256	385	230-256	395
95(105-112)	6	95(105-112)	6	95(105-112)	6
109(110-115)	4	109(110-115)	4	109(110-115)	4
125(136-146)	8	125(136-146)	8	125(136-146)	8
148(161-190)	5	148(161-190)	5	148(161-190)	5
	14		14		14
	32		32		32

1972—1973		1973—1974		1974—1975	
Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
105-114	125	105-113	125	105-115	126
118-126	160	118-126	160	118-126	165
152-160	207	152-160	207	152-160	216
230-256	385	230-256	385	230-256	395
95(105-112)	6	95(105-112)	6	95(105-112)	6
109(110-115)	4	109(110-115)	4	109(110-115)	4
125(136-146)	8	125(136-146)	8	125(136-146)	8
148(161-190)	5	148(161-190)	5	148(161-190)	5
	14		14		14
	32		32		32

1972—1973		1973—1974		1974—1975	
Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
105-114	125	105-113	125	105-115	126
118-126	160	118-126	160	118-126	165
152-160	207	152-160	207	152-160	216
230-256	385	230-256	385	230-256	395
95(105-112)	6	95(105-112)	6	95(105-112)	6
109(110-115)	4	109(110-115)	4	109(110-115)	4
125(136-146)	8	125(136-146)	8	125(136-146)	8
148(161-190)	5	148(161-190)	5	148(161-190)	5
	14		14		14
	32		32		32

1972—1973		1973—1974		1974—1975	
Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
105-114	125	105-113	125	105-115	126
118-126	160	118-126	160	118-126	165
152-160	207	152-160	207	152-160	216
230-256	385	230-256	385	230-256	395
95(105-112)	6	95(105-112)	6	95(105-112)	6
109(110-115)	4	109(110-115)	4	109(110-115)	4
125(136-146)	8	125(136-146)	8	125(136-146)	8
148(161-190)	5	148(161-190)	5	148(161-190)	5
	14		14		14
	32		32		32

DOCTORATE GRANTING DEPARTMENTS. Group IV

WITHOUT DOCTORATE		6		11		0		3		0		54(85-115)		(86-115)		(89-115)120		57(93-94)		(94-110)		(94-115)121	
Instructor	13	0																					
WITH DOCTORATE		1		4		0		0		0		104(115-129)		(127-140)		(132-150)175		104(117-134)		(130-144)		(134-155)183	
Instructor	6	0																					
Asst. Prof.	119	8	4	106	4	0	0	0	0	0	0	128(144-163)	(156-180)	(175-187)234	121(149-166)	152(196-223)	104(117-134)	130(144)	134-155)183	(180-191)214			
Asso. Prof.	96	82	1	104	87	1	1	1	1	1	1	150(187-212)	(219-259)	(268-298)400	152(196-223)	152(196-223)	152(196-223)	(225-250)	(280-300)410				
Professor	136	132	2	143	140	2	2	2	2	2	2												
	357	222	3	357	231	6	3	3	3	3	3												

DOCTORATE GRANTING DEPARTMENTS. Group V

WITHOUT DOCTORATE		0		3		0		0		0		95(95-116)		(100-116)		(105-116)116		100(100)		(105)		(110)110	
Instructor	5	0																					
Asst. Prof.	89	2	4	90	2	10	1	1	1	1	1	75(122-133)	(130-145)	(135-155)170	100(126-140)	100(126-140)	100(126-140)	100(126-140)	(133-153)	(140-160)190			
Asso. Prof.	85	54	0	88	53	4	2	2	2	2	2	130(145-158)	(150-169)	(160-190)250	130(150-170)	130(150-170)	130(150-170)	130(150-170)	(159-178)	(170-190)250			
Professor	92	90	0	98	96	0	0	0	0	0	0	155(190-210)	(210-245)	(240-300)365	168(199-215)	168(199-215)	168(199-215)	168(199-215)	(220-248)	(246-303)385			
	271	146	4	279	151	14	3	3	3	3	3												

DOCTORATE GRANTING DEPARTMENTS. Group VI

WITHOUT DOCTORATE		0		2		0		0		0		95(96-109)		(107-120)		(123-139)165		98(104-120)		(120-131)		(131-150)166	
Instructor	2	0																					
Asst. Prof.	135	20	3	124	24	2	1	1	1	1	1	118(125-132)	(136-155)	(156-187)209	119(133-140)	119(133-140)	119(133-140)	119(133-140)	(148-173)	(173-197)252			
Asso. Prof.	137	119	4	149	127	4	3	3	3	3	3	156(168-197)	(211-225)	(230-261)299	172(176-208)	172(176-208)	172(176-208)	172(176-208)	(225-242)	(241-283)314			
Professor	90	89	1	95	94	1	1	1	1	1	1												
	364	228	8	370	245	7	5	5	5	5	5												

MASTER DEGREE GRANTING DEPARTMENTS

WITHOUT DOCTORATE		82		17		181		48		82		68(83-124)		(89-108)		(94-112)142		72(86-110)		(91-110)		(99-117)142	
Instructor	227	55																					
Asst. Prof.	270	193	62	44	280	212	58	48	48	48	48	72(100-118)	(107-124)	(111-135)166	80(105-124)	80(105-124)	80(105-124)	80(105-124)	(111-130)	(116-140)172			
Asso. Prof.	149	140	12	12	157	151	11	11	11	11	11	90(120-141)	(126-151)	(131-165)222	92(122-147)	92(122-147)	92(122-147)	92(122-147)	(128-160)	(134-171)196			
Professor	42	40	2	2	44	43	0	0	0	0	0	124(155-173)	(156-181)	(157-195)225	140(162-180)	140(162-180)	140(162-180)	140(162-180)	(166-190)	(168-203)236			
	688	428	158	75	662	454	151	77	77	77	77												
WITH DOCTORATE		0		5		422		89		32		83(110-127)		(117-134)		(125-144)208		95(113-130)		(122-138)		(129-150)208	
Instructor	5	0																					
Asst. Prof.	437	63	29	5	422	89	32	8	8	8	8	87(132-150)	(139-164)	(148-174)260	89(136-155)	89(136-155)	89(136-155)	89(136-155)	(145-168)	(153-179)260			
Asso. Prof.	379	290	30	25	416	340	35	29	29	29	29	93(158-192)	(175-203)	(182-220)320	95(162-200)	95(162-200)	95(162-200)	95(162-200)	(178-208)	(191-230)320			
Professor	286	261	13	12	305	287	13	12	12	12	12												
	1107	614	72	42	1148	716	81	49	49	49	49												

SIZE OF FACULTY

1972—1973 1973—1974

	FACULTY		WOMEN		FACULTY		WOMEN	
	With	Total	With	Total	With	Total	With	Total
	903	478	172	79	843	479	155	80

BACHELOR DEGREE GRANTING DEPARTMENTS

	WITHOUT DOCTORATE		WITH DOCTORATE	
	Total	With	Total	With
Instructor	195	19	57	5
Asst. Prof.	431	204	66	31
Asso. Prof.	209	194	36	31
Professor	68	61	13	12
	903	478	172	79

TWO-YEAR COLLEGES

WITHOUT DOCTORATE	
	1108
WITH DOCTORATE	
	76

TWO-YEAR COLLEGES. STAFF CLASSIFIED BY ACADEMIC RANK

	WITHOUT DOCTORATE		WITH DOCTORATE	
	Total	With	Total	With
Instructor	208	76	181	70
Asst. Prof.	215	124	227	124
Asso. Prof.	137	110	149	123
Professor	60	56	63	60
	620	366	620	377

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

SALARIES

(in hundreds of dollars)

1972—1973

1973—1974

	1972—1973		1973—1974		Number of Usable Returns: 325
	Minimum	Median	Maximum	Maximum	
	65(85-101)	(86-102)	(85-104)166	70(90-105)	(92-110)150
	75(95-110)	(99-114)	(102-121)201	80(99-115)	(105-128)180
	74(110-135)	(111-137)	(115-140)231	74(111-141)	(118-150)231
	95(121-160)	(122-168)	(122-168)270	100(129-178)	(129-178)271

Number of Usable Returns: 207

	1972—1973		1973—1974		Number of Usable Returns: 207
	Minimum	Median	Maximum	Maximum	
	60(89-115)	(100-139)	(110-160)215	62(93-121)	(115-162)200
	81(104-134)	(112-146)	(116-165)191	85(110-143)	(118-165)202

104 returns; INCLUDED in the figures above

	1972—1973		1973—1974		Number of Usable Returns: 207
	Minimum	Median	Maximum	Maximum	
	66(86-108)	(92-113)	(95-120)180	75(90-112)	(98-125)206
	78(98-117)	(107-130)	(110-139)180	81(100-122)	(114-140)182
	89(114-141)	(118-150)	(125-164)202	79(123-146)	(134-169)216
	76(120-165)	(132-167)	(140-181)220	78(130-175)	(150-191)230

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	
DOCTORATE GRANTING DEPARTMENTS					
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%	
MASTER DEGREE GRANTING DEPARTMENTS					
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 ₁	Median	Q ₃	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	1970	---	---	---
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.