STARTING SALARIES 1979

Analysis of the

American Chemical Society's

Survey of Graduates in
Chemistry and Chemical Engineering

Manpower Studies
American Chemical Society
Washington, D.C.

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1979 SURVEY REPORT

STARTING SALARIES AND EMPLOYMENT STATUS OF CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES

This report was prepared by the
ACS Office of Manpower Studies.

American Chemical Society
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ACKNOWLEDGMENTS

Chemistry and chemical engineering graduates are surveyed each year by the American Chemical Society's Office of Manpower Studies, which is part of the Department of Professional Relations and Manpower Studies. The survey is conducted annually under the aegis of the Society's Committee on Economic Status for the purpose of observing and reporting trends in starting salaries and employment status.

Bob Jones, Harry Foxwell, and Joanna Chin conducted the survey, edited the returns, and prepared the report. Carolyn Clausen of the Chemical Abstracts Service, Columbus, Ohio, helped with data processing.

Robert K. Neuman, Head
Department of Professional
Relations and Manpower Studies

SUMMARY OF FINDINGS

SALARIES

Mean starting salaries for chemists have gone up since 1978 at all three degree levels, but for doctoral graduates salaries increased by less than the consumer price index, which went up 11.9% from August 1978 to August 1979. Table 1 indicates that 1979 mean starting salaries paid chemistry graduates were

$14,215 for the BS, up 12.3%, or in constant dollars +0.4%
$16,396 for the MS, up 12.6%, or in constant dollars +0.6%
$21,563 for the PhD, up 11.5%, or in constant dollars -0.4%

Chemical engineers, especially bachelor's degree graduates, enjoy much higher starting salaries than do chemists with corresponding degrees. This year, though, at both the bachelor's and master's levels the percent gains and even the absolute gains were smaller for chemical engineers than for chemists. Mean starting salaries for chemical engineering graduates were

$19,480 for the BS, up 8.1%, or in constant dollars -3.4%
$20,609 for the MS, up 7.2%, or in constant dollars -4.2%
$25,327 for the PhD, up 14.5%, or in constant dollars +2.3%

(See tables 1 and 2 for more detailed information regarding starting salaries.)

The foregoing rates slightly overstate the increase for some groups because a smaller fraction of this year's respondents than of last year's entered academic employment. Thus, relatively few of this year's graduates reported academic salaries, which are for the nine- or ten-month academic year and are less than non-academic salaries. The correction for this misleading effect is to employ a weighted average of the increases in the academic and the non-academic salaries. Such a correction would reduce the estimated increase for PhD chemical engineers by 2.6 percentage points. The only other increases that the correction would affect are those for BS and MS chemists, which would diminish by 0.6 and 0.8 percentage points. After the correction none of the starting salaries shows an increase in constant dollars.

POSTDOCTORAL FELLOWSHIPS

In 1975 and in 1976 more than 47% of PhD respondents to this survey entered postdoctoral positions. In 1977 the fraction entering postdoctoral positions decreased, and in 1978 the fraction diminished further. This year, however, a greater fraction of survey respondents accepted postdoctoral positions, and statistical tests indicate that the increase does not result from any peculiarity of the sample but actually reflects an increase in the fraction among all PhDs regardless of whether they are in the sample. (See table 3.)

ADVANCED STUDY

Nearly 70% of the graduates who received bachelor's degrees in chemistry planned to be in school in the fall. Of the chemistry graduates studying full-time, about two-fifths are pursuing advanced degrees in chemistry. Another two fifths are studying medicine or dentistry.

Among those who received bachelor's degrees in chemical engineering and are studying full-time, 60% study chemical engineering, and 16% study medicine or dentistry. (See tables 4 & 5.)

COOPERATIVE EDUCATION

This report contains several tables concerning cooperative education, a subject that did not appear in reports of earlier surveys.

INTERPRETING SURVEY RESULTS

The numbers contained in these tables are estimates, derived from a sample rather than from a complete census. Thus, although they are the best estimates available, they are imperfect. Reasonable caution will prevent rash interpretations. An example of an estimate that demands caution is the difference between men's and women's salaries. Among respondents, women had greater mean salaries than did men, but the difference is small and is not enough to support a statement that the mean for all women, including those not in the sample, is greater than that for men. The technical notes of this report give some guidance as to the degree of precision associated with various statistics in this report.

Table 1

STARTING YEARLY SALARIES OF INEXPERIENCED FULL-TIME EMPLOYED CHEMISTRY GRADUATES

by Degree: Summer of 1978 and Summer of 1979

Salaries	DEGREE LEVEL					
	Bachelor's		Master's		Ph.D.	
	1978	1979	1978	1979	1978	1979
90th Percentile	$15,660	$17,500	$18,300	$20,000	$23,500	$25,300
75th Percentile	14,595	16,200	16,600	18,300	22,200	24,500
50th Percentile	12,700	14,500	15,000	17,000	21,000	23,000
25th Percentile	10,600	12,000	12,000	15,000	18,000	20,400
10th Percentile	9,360	10,400	10,000	12,000	12,000	14,400
Mean	12,651	14,215	14,560	16,396	19,345	21,563
Count	517	442	76	85	158	150
Standard Deviation	2,574	2,839	3,149	3,191	4,335	4,315

Table 2

STARTING YEARLY SALARIES OF INEXPERIENCED FULL-TIME EMPLOYED CHEMICAL ENGINEERING GRADUATES by Degree: Summer of 1978 and Summer of 1979

Salaries	DEGREE LEVEL					
	Bachelor's		Master's		Ph.D.	
	1978	1979	1978	1979	1978	1979
90th Percentile	$18,900	$20,600	$21,000	$22,900	$25,800	$27,800
75th Percentile	18,600	20,100	20,000	21,600	24,960	26,500
50th Percentile	18,200	19,800	19,200	21,000	23,100	25,400
25th Percentile	17,800	19,200	18,500	20,000	20,000	24,300
10th Percentile	16,800	18,300	17,500	19,000	17,000	22,000
Mean	18,023	19,480	19,228	20,609	22,127	25,327
Count	589	727	78	67	38	33
Standard Deviation	1,165	1,830	1,249	3,137	3,727	2,531

Table 3

POSTGRADUATION STATUS OF CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES: Summer 1979

Major and Employment Status	Bachelor's	Master's	Doctorates
CHEMISTRY			
Full-time employed:			
In chemistry or chemical engineering	27.7%	48.2%	55.5%
Outside chemistry or chemical engineering	9.1	7.0	3.6
Postdoctoral/grad. asst./other fellowship	23.6	30.9	38.3
Unemployed and seeking full-time employment	8.9	4.3	2.4
Unemployed and not seeking full-time employment	30.7	9.6	0.2
Total	100.0	100.0	100.0
Number of responses	2,105	301	418
CHEMICAL ENGINEERING			
Full-time employed:			
In chemistry or chemical engineering	71.6%	68.4%	89.4%
Outside chemistry or chemical engineering	7.9	7.7	2.1
Postdoctoral/grad. asst./other fellowship	10.6	17.4	6.4
Unemployed and seeking full-time employment	4.0	4.5	2.1
Unemployed and not seeking full-time employment	6.0	1.9	0.0
Total	100.0	100.0	100.0
Number of responses	1,184	155	47

Table 4

PLANS FOR ADVANCED FURTHER STUDIES OF B.S. CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES: Fall 1979

	Chemistry	Chemical Engineering
Plan further studies	68.6%	40.8%
full-time	(54.7)	(17.3)
part-time	(13.9)	(23.5)
Have no plans or no response	31.4	59.2
Total	100.0	100.0
Number of responses	2,103	1,177

Table 5

FIELD OF ADVANCED FURTHER STUDIES OF B.S. CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES WHO PLAN FURTHER STUDIES: Fall 1979

Field of Study	Chemistry	Chemical Engineering
Full-time		
Chemistry or biochemistry	39.6%	2.0
Chemical engineering	4.2	60.6
Medicine or Dentistry	41.6	16.3
Business or management	1.6	7.9
All others	13.0	13.2
Total	100.0	100.0
Number of responses	1,151	203
Part-time		
Chemistry or biochemistry	37.1	2.5
Chemical engineering	8.2	30.3
Business or management	23.7	54.5
All others	31.0	12.7
Total	100.0	100.0
Number of responses	291	277

SCOPE AND METHOD

OBJECTIVES

The 1979 Starting Salary Survey is the 28th in the series of annual surveys now conducted by the Office of Manpower Studies of the American Chemical Society. Summaries of the results of these surveys appear annually in the "Chemical Careers" edition of Chemical and Engineering News, this year published on October 22.

The primary objective of the survey is to gather data on the starting salaries and occupational status of new chemists and chemical engineers who graduated during the 1978-79 academic year. This year's survey covers bachelors, masters, and doctoral degree recipients. In addition, the survey provides information on graduates' sex, citizenship, and minority classification.

METHOD OF COLLECTION AND TIMING OF SURVEY

Chemistry and chemical engineering departments provided names and addresses of students who graduated between July 1, 1978 and June 30, 1979. The cooperating departments were the chemistry departments approved by the ACS, and the chemical engineering departments accredited by the American Institute of Chemical Engineers and the Engineer's Council for Professional Development.

During the summer of 1979, the Office of Manpower Studies mailed questionnaires to those graduates who had U.S. addresses and graduation dates from September 1978 through June 1979. Summer graduates were excluded from the mailing because many of these had twelve months' experience by the time the survey was conducted.

EXTENT OF COVERAGE

Survey questionnaires were mailed to 11,283 graduates. Past experience has shown that approximately ten percent of the addresses provided are not adequate to assure delivery. The questionnaires were mailed between July 12 and August 3. By the cutoff date of September 18, the Office of Manpower Studies had received 4627 responses, 4570 of them usable.

The table below contains estimates of the numbers of chemistry and chemical engineering graduates in 1979, as reported in the ACS's publication Professionals in Chemistry: 1978, (page 41).

Projected Number of Degrees in
Chemistry and Chemical Engineering

	Bachelors	Masters	Doctorates
Chemistry	11,800	1,840	1,520
Chemical Engineering	3,900	1,190	280

The survey respondents represent about 20 percent of all 1979 chemistry graduates and about 25 percent of all 1979 chemical engineering graduates. No effort was made to examine the characteristics of graduates from departments that did not participate in the survey or of those graduates who did not mail back completed questionnaires.

DEFINITIONS

The questionnaire appears in the appendix. Responses to question J on post-graduation status were edited to eliminate multiple responses and to reflect as accurately as possible the employment status of the respondent.

The term "inexperienced" as used in the tables refers to those who have 12 months or less of prior professional work experience. Salary tables are based only on salaries of those who found full-time employment in chemistry or chemical engineering. Postdoctoral salaries are analyzed separately.

Methods of estimating sampling errors and other statistics, and explanations of discrepancies in the numbers of respondents in various table appear in the Technical Notes on page 11.

GEOGRAPHIC REGIONS

PACIFIC

- Alaska
- California
- Hawaii
- Oregon
- Washington

MOUNTAIN

- Arizona
- Colorado
- Idaho
- Montana
- Nevada
- New Mexico
- Utah
- Wyoming

WEST NORTH CENTRAL

- Iowa
- Kansas
- Minnesota
- Missouri
- Nebraska
- North Dakota
- South Dakota

WEST SOUTH CENTRAL

- Arkansas
- Louisiana
- Oklahoma
- Texas

EAST NORTH CENTRAL

- Illinois
- Indiana
- Michigan
- Ohio
- Wisconsin

EAST SOUTH CENTRAL

- Alabama
- Kentucky
- Mississippi
- Tennessee

MIDDLE ATLANTIC

- New Jersey
- New York
- Pennsylvania

SOUTH ATLANTIC

- Delaware
- District of Columbia
- Florida
- Georgia
- Maryland
- North Carolina
- South Carolina
- Virginia
- West Virginia

NEW ENGLAND

- Connecticut
- Maine
- Massachusetts
- New Hampshire
- Rhode Island
- Vermont

TECHNICAL NOTES

DISCREPANCIES AMONG TABLES

Some pairs of tables contain totals that should be identical but are not. For example, two tables that present information about PhD respondents should show the same total number of PhDs. They might, however, show different totals. To illustrate, if one table groups the PhDs according to sex and the other groups them according to geographic region, the totals will differ unless the number who did not indicate their sex is the same as the number who did not indicate their geographic region.

ESTIMATES OF MEDIAN SALARIES

Median salaries displayed within the "cells" of the salary tables are sample medians and are therefore subject to sampling error. This error may be quite large, especially when the number of respondents in the corresponding cell is small. Therefore, median salaries in cells with fewer than 15 respondents should not be used to estimate their corresponding population medians.

COMPARING SALARIES

Often questions arise concerning women's salaries as compared with men's, or chemists' salaries as compared with chemical engineers'. These and similar comparisons require caution.

Statistical tests should be performed to determine whether observed differences in salaries of various sample groups could be mere chance occurrences resulting from peculiarities of the samples. Whether a difference in salaries is "statistically significant" depends not only on the magnitude of the difference but also on the sample sizes and the magnitudes of the sample standard deviations.

References for statistical tests of significance may be found in Numerical and Statistical Techniques, by J.H. Pollard, Handbook of Tables for Probability and Statistics, published by the Chemical Rubber Company, and other similar texts.

ESTIMATING SAMPLING ERROR FOR PERCENTS

Percents in this report are derived from the sample. If the entire population had received and returned questionnaires, most estimates would be somewhat different. How large could these differences be? Although this question does not have an exact answer, the table below does provide some guidance. To use the table find the column headed by the percent (p) derived from the sample, and find the row appropriate for the sample size (n). (Approximations for p and n may be used.) Note the number in that column and that row of the table. This number from the body of the table measures the precision with which the sample percent estimates the percent of the entire population. Specifically, if this procedure is applied repeatedly, about 95 times out of 100 the population percent will differ from the sample percent by no more than the amount shown in the table.

Approximate Sampling Errors for Percents

n	p = 10% or 90%	p = 20% or 80%	p = 30% or 70%	p = 40% or 60%	p = 50%
50	8.3%	11.1%	12.7%	13.6%	13.9%
100	5.9	7.8	9.0	9.6	9.8
200	4.2	5.5	6.4	6.8	6.9
500	2.6	3.5	4.0	4.3	4.4
1000	1.9	2.5	2.8	3.0	3.1
2000	1.3	1.8	2.0	2.1	2.2
5000	0.8	1.1	1.3	1.4	1.4
10000	0.6	0.8	0.9	1.0	1.0

In Table B-1 (page 28), for example, 232 respondents classified as chemists indicated their highest degree as PhD, and their employment status as employed full-time in chemistry or chemical engineering. The percent of this group who are women is listed as 12.5 percent (p=12.5). A "95% confidence interval" for this percent may be approximated by taking n and p to be about 200 and 10% respectively. The table shows an approximate sampling error of 4.2%. Hence, the 95% confidence interval is 8.3% to 16.7%. If 100 similar estimates were made at this "level of confidence", about 95 of the true population percents would be contained in their respective intervals.

LIST OF TABLES

ADVANCED FURTHER STUDIES

Table A-1

STARTING YEARLY SALARIES

OF INEXPERIENCED FULL-TIME CHEMISTS

BY HIGHEST DEGREE EARNED AND EMPLOYER

HIGHEST DEGREE EARNED		EMPLOYER							
		ALL INDUSTRY	MFG INDUSTRY	NON-MFG INDUSTRY	ACADEMIC INST	GOVERNMENT	HOSP, LAB, NON-PROFIT	OTHER	ROW TOTAL
PHD	MEDIAN	23700.	23800.	23400.	14500.	20100.	17100.	24000.	23000.
	MEAN	23688.	23684.	23743.	14983.	19267.	16400.	24071.	21540.
	COUNT	100	93	7	30	9	3	7	149
	STD DEV	1837.	1811.	2317.	3491.	4057.	1758.	1650.	4321.
MASTER		17700.	17700.	14000.	12000.	16000.	16000.	17500.	17000.
		17560.	17581.	17000.	12115.	15750.	16383.	17480.	16530.
		55	53	2	13	4	6	5	83
		2416.	2388.	4243.	2638.	1258.	2249.	606.	3022.
BACHELOR		15000.	15000.	16200.	10300.	11800.	11700.	14900.	14500.
		15027.	14960.	15970.	10286.	12205.	12063.	14808.	14211.
		300	280	20	29	22	51	38	440
		2449.	2453.	2240.	1312.	1669.	2713.	2854.	2845.
COLUMN	MEAN	17237.	17191.	17917.	12574.	14426.	12712.	16372.	16122.
	COUNT	455	426	29	72	35	60	50	672
	STD DEV	4217.	4229.	4056.	3386.	3916.	3033.	4124.	4412.

Table A-2

STARTING YEARLY SALARIES

OF INEXPERIENCED FULL-TIME CHEMISTS

BY HIGHEST DEGREE EARNED AND EMPLOYER - MEN

HIGHEST DEGREE EARNED		EMPLOYER							
		ALL INDUSTRY	MFG INDUSTRY	NON-MFG INDUSTRY	ACADEMIC INST.	GOVERNMENT	HOSP, LAB, NON-PROFIT	OTHER	ROW TOTAL
PHD	MEDIAN	23700.	23800.	23400.	15000.	20100.	17100.	24000.	23000.
	MEAN	23686.	23681.	23743.	15232.	19267.	16400.	24483.	21699.
	COUNT	92	85	7	25	9	3	6	135
	STD DEV	1891.	1868.	2317.	3773.	4057.	1758.	1357.	4238.
MASTER		17700.	17700.	14000.	13200.	14000.	17500.	17500.	17300.
		17618.	17648.	17000.	13614.	15000.	16700.	17500.	17002.
		44	42	2	7	2	3	3	59
		2521.	2491.	4243.	2302.	1414.	1652.	100.	2687.
BACHELOR		15000.	15000.	16200.	10000.	11700.	11500.	15800.	14400.
		14912.	14831.	15950.	10400.	11950.	12162.	15020.	14249.
		195	181	14	19	12	21	20	267
		2519.	2519.	2369.	1229.	1618.	2590.	3327.	2853.
COLUMN	MEAN	17710.	17658.	18413.	13210.	15078.	13137.	17234.	16783.
	COUNT	331	308	23	51	23	27	29	461
	STD DEV	4487.	4501.	4322.	3616.	4461.	3012.	4755.	4656.

Table A-3

STARTING YEARLY SALARIES

OF INEXPERIENCED FULL-TIME CHEMISTS

BY HIGHEST DEGREE EARNED AND EMPLOYER - WOMEN

HIGHEST DEGREE EARNED		EMPLOYER							
		ALL INDUSTRY	MFG INDUSTRY	NON-MFG INDUSTRY	ACADEMIC INST	GOVERNMENT	HOSP, LAB, NON-PROFIT	OTHER	ROW TOTAL
PHD	MEDIAN	23700.	23700.		13600.			21600.	21600.
	MEAN	23713.	23713.		13740.			21600.	20000.
	COUNT	8	8	0	5	0	0	1	14
	STD DEV	1102.	1102.		811.			0.	4961.
MASTER		17500.	17500.		10000.	16000.	16000.	16600.	16000.
		17327.	17327.		10367.	16500.	16067.	17450.	15371.
		11	11	0	6	2	3	2	24
		2031.	2031.		1879.	707.	3101.	1202.	3521.
BACHELOR		15600.	15600.	16200.	10300.	11800.	11700.	14800.	14800.
		15238.	15191.	16017.	10070.	12510.	11993.	14572.	14144.
		104	98	6	10	10	30	18	172
		2320.	2333.	2114.	1503.	1763.	2838.	2291.	2846.
COLUMN	MEAN	15976.	15974.	16017.	11029.	13175.	12364.	15181.	14674.
	COUNT	123	117	6	21	12	33	21	210
	STD DEV	3083.	3131.	2114.	2112.	2237.	3052.	2728.	3422.

Table A-4

STARTING YEARLY SALARIES

OF INEXPERIENCED FULL-TIME B.S. CHEMISTS

BY EMPLOYER AND CERTIFICATION STATUS

EMPLOYER		CERTIFIED	NON CERTIFIED	ROW TOTAL
INDUSTRY	MEDIAN	15600.	15000.	15000.
	MEAN	15202.	14776.	15027.
	COUNT	177	123	300
	STD DEV	2355.	2567.	2449.
ACADEMIC INST		10800.	10000.	10300.
		10625.	10157.	10286.
		8	21	29
		1131.	1378.	1312.
GOVERNMENT		11700.	11800.	11800.
		12208.	12200.	12205.
		12	10	22
		1927.	1401.	1669.
HOSP,LAB,NON-PROFIT		12300.	11000.	11700.
		12886.	10977.	12063.
		29	22	51
		2708.	2362.	2713.
OTHER		15800.	13600.	14900.
		15204.	13836.	14808.
		27	11	38
		2945.	2476.	2854.
COLUMN	MEAN	14650.	13617.	14211.
	COUNT	253	187	440
	STD DEV	2680.	2959.	2845.

Table A-5

STARTING YEARLY SALARIES

OF INEXPERIENCED FULL-TIME M.S. AND PH.D. CHEMISTS

BY FIELD OF HIGHEST DEGREE

FIELD OF HIGHEST DEGREE		HIGHEST DEGREE EARNED PHD	MS	ROW TOTAL
CHEMISTRY, GENERAL	MEDIAN	25800.	18000.	
	MEAN	21500.	17345.	18236.
	COUNT	3	11	14
	STD DEV	8240.	2406.	4246.
ANALYTICAL CHEM		22800.	18000.	
		21258.	17625.	20289.
		33	12	45
		4685.	3374.	4631.
INORGANIC CHEM		23000.	15000.	
		21768.	13929.	20200.
		28	7	35
		4349.	3878.	5272.
ORGANIC CHEM		22500.	16000.	
		21394.	16019.	19479.
		47	26	73
		3995.	2705.	4410.
PHARM,MED,CLIN, CHEM			13000.	
			12867.	12867.
		0	3	3
			4701.	4701.
PHYSICAL, THEORETICAL CHEM.		23500.	16100.	
		21843.	15829.	19930.
		30	14	44
		4044.	3458.	4762.
POLYMER,MACROMO., CHEM		25600.	17500.	
		26467.	18075.	21671.
		3	4	7
		2996.	1767.	4967.
CHEMISTRY,OTHER		20000.	17000.	
		19783.	18113.	18829.
		6	8	14
		4495.	2359.	3391.
ALL FIELDS		23000.	17000.	
		21563.	16396.	19694.
		150	85	235
		4315.	3191.	4658.

Table A-6

STARTING YEARLY SALARIES

OF INEXPERIENCED FULL-TIME CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED AND EMPLOYER

HIGHEST DEGREE EARNED		EMPLOYER: ALL INDUSTRY	MFG INDUSTRY	NON-MFG INDUSTRY	ACADEMIC INST	GOVERNMENT	HOSP, LAB, NON-PROFIT	OTHER	ROW TOTAL
PHD	MEDIAN	25800.	25800.	25200.	22000.	25700.	25400.	26000.	25400.
	MEAN	26211.	26300.	25733.	21533.	25700.	25700.	26450.	25327.
	COUNT	19	16	3	6	1	3	4	33
	STD DEV	1946.	2081.	1102.	2291.	0.	700.	988.	2532.
MASTER		21000.	21300.	21000.	17500.	23100.	19200.	20800.	21000.
		21180.	21278.	20733.	18950.	23200.	17725.	18511.	20609.
		50	41	9	2	2	4	9	67
		1531.	1652.	661.	2051.	141.	5499.	6437.	3137.
BACHELOR		19800.	19800.	19800.		18000.	19500.	19800.	19800.
		19563.	19611.	19029.		17607.	19418.	18787.	19480.
		662	607	55	0	15	11	38	726
		1669.	1529.	2746.		1960.	651.	3518.	1831.
COLUMN	MEAN	19846.	19875.	19558.	20888.	18678.	20089.	19339.	19805.
	COUNT	731	664	67	8	18	18	51	826
	STD DEV	2005.	1893.	2901.	2404.	3080.	3578.	4500.	2313.

Table A-7

STARTING YEARLY SALARIES

OF INEXPERIENCED FULL-TIME CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED AND EMPLOYER - MEN

HIGHEST DEGREE EARNED		EMPLOYER							
		ALL INDUSTRY	MFG INDUSTRY	NON-MFG INDUSTRY	ACADEMIC INST	GOVERNMENT	HOSP, LAB, NON-PROFIT	OTHER	ROW TOTAL
PHD	MEDIAN	25800.	25800.	25200.	22000.	25700.	25400.	26000.	25400.
	MEAN	26211.	26300.	25733.	21533.	25700.	25700.	26450.	25327.
	COUNT	19	16	3	6	1	3	4	33
	STD DEV	1946.	2081.	1102.	2291.	0.	700.	988.	2532.
MASTER		21000.	21300.	21000.	17500.	23100.	9600.	20800.	21000.
		21220.	21313.	20714.	18950.	23200.	15550.	18511.	20615.
		45	38	7	2	2	2	9	60
		1599.	1710.	607.	2051.	141.	8415.	6437.	3308.
BACHELOR		19800.	19800.	19800.		18000.	19500.	19800.	19800.
		19479.	19533.	18857.		17515.	19475.	18681.	19399.
		530	488	42	0	13	8	26	577
		1807.	1653.	3050.		2033.	656.	3917.	1966.
COLUMN	MEAN	19826.	19857.	19504.	20888.	18738.	20308.	19438.	19800.
	COUNT	594	542	52	8	16	13	39	670
	STD DEV	2186.	2062.	3224.	2404.	3239.	4212.	4966.	2511.

Table A-8

STARTING YEARLY SALARIES

OF INEXPERIENCED FULL-TIME CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED AND EMPLOYER - WOMEN

HIGHEST DEGREE EARNED		EMPLOYER						ROW TOTAL
		ALL INDUSTRY	MFG INDUSTRY	NON-MFG INDUSTRY	GOVERNMENT	HOSP, LAB, NON-PROFIT	OTHER	
MASTER	MEDIAN	20800.	20800.	20000.		19200.		20600.
	MEAN	20820.	20833.	20800.		19900.		20557.
	COUNT	5	3	2	0	2	0	7
	STD DEV	650.	451.	1131.		990.		804.
BACHELOR		20000.	20000.	19500.	16900.	19300.	19800.	20000.
		19897.	19932.	19550.	18200.	19267.	19017.	19789.
		130	118	12	2	3	12	147
		867.	800.	1364.	1838.	751.	2585.	1139.
COLUMN	MEAN	19931.	19955.	19729.	18200.	19520.	19017.	19824.
	COUNT	135	121	14	2	5	12	154
	STD DEV	876.	805.	1371.	1838.	804.	2585.	1136.

Table A-9

STARTING YEARLY SALARIES

OF INEXPERIENCED FULL-TIME CHEMISTS AND CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED AND SEX

HIGHEST DEGREE EARNED		MEN	WOMEN	ROW TOTAL
CHEMISTRY	MEDIAN	23000.	21600.	23000.
PHD	MEAN	21724.	20000.	21563.
	COUNT	136	14	150
	STD DEV	4232.	4961.	4316.
		17300.	16000.	17000.
MASTER		16800.	15371.	16396.
		61	24	85
		2986.	3521.	3191.
		14400.	14800.	14500.
BACHELOR		14256.	14145.	14212.
		268	173	441
		2850.	2837.	2842.
COLUMN	MEAN	16774.	14673.	16118.
	COUNT	465	211	676
	STD DEV	4678.	3413.	4429.

HIGHEST DEGREE EARNED		MEN	WOMEN	ROW TOTAL
CHEMICAL ENG	MEDIAN	25400.		25400.
PHD	MEAN	25327.		25327.
	COUNT	33	0	33
	STD DEV	2531.		2531.
		21000.	20600.	21000.
MASTER		20615.	20557.	20609.
		60	7	67
		3308.	804.	3137.
		19800.	20000.	19800.
BACHELOR		19399.	19790.	19479.
		577	148	725
		1966.	1135.	1833.
COLUMN	MEAN	19800.	19825.	19804.
	COUNT	670	155	825
	STD DEV	2511.	1132.	2315.

STARTING YEARLY SALARIES

OF INEXPERIENCED FULL-TIME MINORITY CHEMISTS AND CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED

HIGHEST DEGREE EARNED		CHEMICAL ENG.	CHEMISTRY
PHD	MEDIAN	25400.	23000.
	MEAN	25327.	21563.
	COUNT	33	150
	STD DEV	2531.	4315.
MASTER		21000.	17000.
		20609.	16396.
		67	85
		3137.	3191.
BACHELOR		19800.	14500.
		19480.	14215.
		727	442
		1830.	2839.
COLUMN	MEAN	19805.	16117.
	COUNT	827	677
	STD DEV	2311.	4425.

Table A-11

STARTING YEARLY SALARIES

OF INEXPERIENCED FULL-TIME CHEMISTS AND CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED AND GEOGRAPHIC REGION

HIGHEST DEGREE EARNED		GEOGRAPHIC REGION									ROW TOTAL
		PACIFIC	MOUNTAIN	WEST NORTH CENTRAL	WEST SOUTH CENTRAL	EAST NORTH CENTRAL	EAST SOUTH CENTRAL	MIDDLE ATLANTIC	SOUTH ATLANTIC	NEW ENGLAND	
CHEMISTRY											
PHD	MEDIAN	16000.	15000.	22500.	22200.	23500.	22600.	23400.	23500.	24000.	23000.
	MEAN	17229.	15160.	21550.	20513.	22476.	19700.	22603.	22290.	21871.	21563.
	COUNT	7	5	14	16	34	5	33	29	7	150
	STD DEV	5214.	3942.	3048.	5640.	4289.	5551.	3504.	3143.	4099.	4316.
MASTER		16000.	18000.	16000.	19600.	16100.	15000.	17000.	15500.	17000.	17000.
		14863.	17700.	15280.	17533.	16375.	15740.	16758.	16125.	17000.	16312.
		8	3	5	3	20	5	24	12	3	83
		5300.	985.	3946.	3931.	2833.	4510.	2791.	2672.	1500.	3179.
BACHELOR		15000.	13000.	13000.	16500.	15000.	13000.	15000.	12500.	12000.	14500.
		14928.	13960.	12785.	15997.	14577.	12969.	14626.	13002.	12896.	14211.
		32	10	27	29	117	26	122	49	27	439
		2764.	2310.	2547.	3834.	2477.	2614.	2724.	2640.	2825.	2846.
COLUMN	MEAN	15260.	14917.	15724.	17598.	16358.	14289.	16383.	16411.	14927.	16112.
	COUNT	47	18	46	48	171	36	179	90	37	672
	STD DEV	3696.	2919.	4856.	4903.	4281.	4063.	4191.	5042.	4639.	4435.
CHEMICAL ENG											
PHD	MEDIAN	25200.	25700.	22000.	25200.	25000.	23500.	26000.	22000.	25200.	25400.
	MEAN	26080.	25700.	22000.	24686.	24720.	23500.	26300.	24800.	25200.	25327.
	COUNT	5	1	1	7	5	1	10	2	1	33
	STD DEV	2587.	0.	0.	2403.	4011.	0.	1871.	3960.	0.	2532.
MASTER		20400.	20000.	20300.	21600.	21600.	20500.	21000.	21300.	21500.	21000.
		20600.	20600.	14167.	21100.	21654.	20500.	20732.	20113.	21950.	20609.
		7	4	3	10	13	1	19	8	2	67
		1313.	766.	10710.	1756.	2513.	0.	1237.	4301.	636.	3137.
BACHELOR		20000.	19700.	19600.	20000.	19900.	19800.	19700.	19800.	19000.	19800.
		19329.	19305.	19098.	19871.	19480.	19735.	19422.	19568.	18468.	19472.
		59	22	59	126	153	26	160	92	25	722
		2556.	1782.	1663.	1796.	1812.	776.	1495.	1419.	3604.	1837.
COLUMN	MEAN	19930.	19733.	18910.	20193.	19799.	19896.	19917.	19714.	18957.	19800.
	COUNT	71	27	63	143	171	28	189	102	28	822
	STD DEV	2999.	2067.	2750.	2103.	2197.	1038.	2156.	1948.	3727.	2319.

YEARLY SALARIES

OF POSTDOCTORAL CHEMISTS AND CHEMICAL ENGINEERS

BY EMPLOYER

EMPLOYER		CHEMICAL ENG.	CHEMISTRY
INDUSTRY	MEDIAN		23500.
	MEAN		23457.
	COUNT	0	7
	STD DEV		2083.
ACADEMIC INST		15400.	10800.
		15133.	10971.
		3	119
		2013.	1965.
GOVERNMENT			15000.
		0	15020.
			15
			3095.
HOSP,LAB,NON-PROFIT			13500.
		0	13855.
			11
			3045.
OTHER			10000.
		0	11100.
			3
			2081.
ALL EMPLOYERS		15400.	11000.
		15133.	12134.
		3	155
		2013.	3546.

POSTGRADUATION STATUS OF CHEMISTS

BY HIGHEST DEGREE EARNED AND SEX

EMPLOYMENT STATUS		BACHELOR MEN	BACHELOR WOMEN	BACHELOR ROW TOTAL	MASTER MEN	MASTER WOMEN	MASTER ROW TOTAL	PHD MEN	PHD WOMEN	PHD ROW TOTAL
FULL-TIME IN CHEM.	COUNT	365	218	583	100	45	145	203	29	232
	% OF ROW	62.6	37.4	27.7	69.0	31.0	48.2	87.5	12.5	55.5
	% OF COL	24.6	35.2		45.0	57.0		55.3	56.9	
FULL-TIME NON-CHEM.		142	49	191	13	8	21	14	1	15
		74.3	25.7	9.1	61.9	38.1	7.0	93.3	6.7	3.6
		9.6	7.9		5.9	10.1		3.8	2.0	
POST-DOC OR ASST.		359	138	497	74	19	93	142	18	160
		72.2	27.8	23.6	79.6	20.4	30.9	88.8	11.3	38.3
		24.2	22.3		33.3	24.1		38.7	35.3	
NOT EMPL-SEEKING		114	73	187	12	1	13	7	3	10
		61.0	39.0	8.9	92.3	7.7	4.3	70.0	30.0	2.4
		7.7	11.8		5.4	1.3		1.9	5.9	
NOT EMPL- NOT SEEKING		506	141	647	23	6	29	1	0	1
		78.2	21.8	30.7	79.3	20.7	9.6	100.0	0.0	0.2
		34.1	22.8		10.4	7.6		0.3	0.0	
COLUMN TOTAL		1486	619	2105	222	79	301	367	51	418
		70.6	29.4	100.0	73.8	26.2	100.0	87.8	12.2	100.0

ADVANCED STUDY PLANS FALL 1979

FULL-TIME	COUNT	876	275	1151	100	22	122	36	1	37
	% OF ROW	76.1	23.9	54.7	82.0	18.0	40.5	97.3	2.7	8.9
	% OF COL	59.0	44.4		45.0	27.8		9.9	2.0	
PART-TIME		190	102	292	33	11	44	20	2	22
		65.1	34.9	13.9	75.0	25.0	14.6	90.9	9.1	5.3
		12.8	16.5		14.9	13.9		5.5	3.9	
NO PLANS		418	242	660	89	46	135	307	48	355
		63.3	36.7	31.4	65.9	34.1	44.9	86.5	13.5	85.7
		28.2	39.1		40.1	58.2		84.6	94.1	
COLUMN TOTAL		1484	619	2103	222	79	301	363	51	414
		70.6	29.4	100.0	73.8	26.2	100.0	87.7	12.3	100.0

POSTGRADUATION STATUS OF B.S. CHEMISTS

BY CERTIFICATION STATUS

EMPLOYMENT STATUS		CERTIFIED	NON CERTIFIED	ROW TOTAL
FULL-TIME IN CHEM.	COUNT	328	256	584
	% OF ROW	56.2	43.8	27.7
	% OF COL	30.4	24.8	
FULL-TIME NON-CHEM.		67	125	192
		34.9	65.1	9.1
		6.2	12.1	
POST-DOC OR ASST.		358	139	497
		72.0	28.0	23.6
		33.2	13.5	
NOT EMPL-SEEKING		98	90	188
		52.1	47.9	8.9
		9.1	8.7	
NOT EMPL-NOT SEEKING		227	422	649
		35.0	65.0	30.8
		21.1	40.9	
COLUMN TOTAL		1078	1032	2110
		51.1	48.9	100.0

ADVANCED STUDY PLANS FALL 1979

FULL-TIME	COUNT	593	561	1154
	% OF ROW	51.4	48.6	54.7
	% OF COL	55.1	54.4	
PART-TIME		136	157	293
		46.4	53.6	13.9
		12.6	15.2	
NO PLANS		348	313	661
		52.6	47.4	31.4
		32.3	30.4	
COLUMN TOTAL		1077	1031	2108
		51.1	48.9	100.0

Table B-3

POSTGRADUATION STATUS OF M.S. AND PH.D. CHEMISTS

BY FIELD OF HIGHEST DEGREE

EMPLOYMENT STATUS		FIELD OF HIGHEST DEGREE: GENERAL CHEM.	ANALYTICAL CHEM.	INORGANIC CHEM.	ORGANIC CHEM.	PHARMA., MEDI., CLINI. CHEM	PHYSICAL, THEORETICAL CHEM.	POLYMER, MACROMO. CHEM.	OTHER CHEM.	ROW TOTAL
MS										
FULL-TIME IN CHEM.	COUNT	26	21	14	40	8	19	6	11	145
	% OF ROW	17.9	14.5	9.7	27.6	5.5	13.1	4.1	7.6	48.0
	% OF COL	50.0	45.7	60.9	46.0	100.0	37.3	66.7	42.3	
FULL-TIME NON-CHEM.	COUNT	5	4	2	2	0	4	0	4	21
	% OF ROW	23.8	19.0	9.5	9.5	0.0	19.0	0.0	19.0	7.0
	% OF COL	9.6	8.7	8.7	2.3	0.0	7.8	0.0	15.4	
POST-DOC OR ASST	COUNT	10	17	6	29	0	21	3	7	93
	% OF ROW	10.8	18.3	6.5	31.2	0.0	22.6	3.2	7.5	30.8
	% OF COL	19.2	37.0	26.1	33.3	0.0	41.2	33.3	26.9	
NOT EMPL-SEEKING	COUNT	1	2	0	6	0	3	0	2	14
	% OF ROW	7.1	14.3	0.0	42.9	0.0	21.4	0.0	14.3	4.6
	% OF COL	1.9	4.3	0.0	6.9	0.0	5.9	0.0	7.7	
NOT EMPL-NOT SEEKING	COUNT	10	2	1	10	0	4	0	2	29
	% OF ROW	34.5	6.9	3.4	34.5	0.0	13.8	0.0	6.9	9.6
	% OF COL	19.2	4.3	4.3	11.5	0.0	7.8	0.0	7.7	
COLUMN TOTAL	COUNT	52	46	23	87	8	51	9	26	302
	% OF ROW	17.2	15.2	7.6	28.8	2.6	16.9	3.0	8.6	100.0
PHD										
FULL-TIME IN CHEM.	COUNT	3	48	43	67	1	48	10	12	232
	% OF ROW	1.3	20.7	18.5	28.9	0.4	20.7	4.3	5.2	55.5
	% OF COL	33.3	85.7	65.2	49.6	33.3	45.3	71.4	41.4	
FULL-TIME NON-CHEM.	COUNT	1	0	2	3	0	5	1	3	15
	% OF ROW	6.7	0.0	13.3	20.0	0.0	33.3	6.7	20.0	3.6
	% OF COL	11.1	0.0	3.0	2.2	0.0	4.7	7.1	10.3	
POST-DOC OR ASST	COUNT	5	5	20	64	2	50	2	12	160
	% OF ROW	3.1	3.1	12.5	40.0	1.3	31.3	1.3	7.5	38.3
	% OF COL	55.6	8.9	30.3	47.4	66.7	47.2	14.3	41.4	
NOT EMPL-SEEKING	COUNT	0	3	1	1	0	2	1	2	10
	% OF ROW	0.0	30.0	10.0	10.0	0.0	20.0	10.0	20.0	2.4
	% OF COL	0.0	5.4	1.5	0.7	0.0	1.9	7.1	6.9	
NOT EMPL-NOT SEEKING	COUNT	0	0	0	0	0	1	0	0	1
	% OF ROW	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.2
	% OF COL	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	
COLUMN TOTAL	COUNT	9	56	66	135	3	106	14	29	418
	% OF ROW	2.2	13.4	15.8	32.3	0.7	25.4	3.3	6.9	100.0

Table B-4

POSTGRADUATION STATUS OF CHEMISTS

BY HIGHEST DEGREE EARNED AND CITIZENSHIP

EMPLOYMENT STATUS		BACHELOR				MASTER				PHD			
		U.S. CITIZEN	U.S. PERM. RESIDENT VISA	OTHER TYPE OF VISA	ROW TOTAL	U.S. CITIZEN	U.S. PERM. RESIDENT VISA	OTHER TYPE OF VISA	ROW TOTAL	U.S. CITIZEN	U.S. PERM. RESIDENT VISA	OTHER TYPE OF VISA	ROW TOTAL
FULL-TIME IN CHEM.	COUNT	571	9	1	581	132	7	6	145	214	11	6	231
	% OF ROW	98.3	1.5	0.2	27.6	91.0	4.8	4.1	48.0	92.6	4.8	2.6	55.4
	% OF COL	27.8	32.1	5.0		48.9	53.8	31.6		57.8	57.9	21.4	
FULL-TIME NON-CHEM.	COUNT	187	3	2	192	18	3	0	21	15	0	0	15
	% OF ROW	97.4	1.6	1.0	9.1	85.7	14.3	0.0	7.0	100.0	0.0	0.0	3.6
	% OF COL	9.1	10.7	10.0		6.7	23.1	0.0		4.1	0.0	0.0	
POST-DOC OR ASST	COUNT	486	3	8	497	80	2	11	93	134	5	21	160
	% OF ROW	97.8	0.6	1.6	23.6	86.0	2.2	11.8	30.8	83.8	3.1	13.1	38.4
	% OF COL	23.6	10.7	40.0		29.6	15.4	57.9		36.2	26.3	75.0	
NOT EMPL-SEEKING	COUNT	181	5	2	188	12	0	2	14	6	3	1	10
	% OF ROW	96.3	2.7	1.1	8.9	85.7	0.0	14.3	4.6	60.0	30.0	10.0	2.4
	% OF COL	8.8	17.9	10.0		4.4	0.0	10.5		1.6	15.8	3.6	
NOT EMPL-NOT SEEKING	COUNT	632	8	7	647	28	1	0	29	1	0	0	1
	% OF ROW	97.7	1.2	1.1	30.7	96.6	3.4	0.0	9.6	100.0	0.0	0.0	0.2
	% OF COL	30.7	28.6	35.0		10.4	7.7	0.0		0.3	0.0	0.0	
COLUMN TOTAL		2057	28	20	2105	270	13	19	302	370	19	28	417
		97.7	1.3	1.0	100.0	89.4	4.3	6.3	100.0	88.7	4.6	6.7	100.0

ADVANCED STUDY PLANS FALL 1979

FULL-TIME	COUNT	1121	14	17	1152	109	3	10	122	34	0	3	37
	% OF ROW	97.3	1.2	1.5	54.8	89.3	2.5	8.2	40.4	91.9	0.0	8.1	9.0
	% OF COL	54.5	50.0	85.0		40.4	23.1	52.6		9.3	0.0	10.7	
PART-TIME	COUNT	285	6	1	292	39	3	2	44	20	2	0	22
	% OF ROW	97.6	2.1	0.3	13.9	88.6	6.8	4.5	14.6	90.9	9.1	0.0	5.3
	% OF COL	13.9	21.4	5.0		14.4	23.1	10.5		5.5	10.5	0.0	
NO PLANS	COUNT	649	8	2	659	122	7	7	136	312	17	25	354
	% OF ROW	98.5	1.2	0.3	31.3	89.7	5.1	5.1	45.0	88.1	4.8	7.1	85.7
	% OF COL	31.6	28.6	10.0		45.2	53.8	36.8		85.2	89.5	89.3	
COLUMN TOTAL		2055	28	20	2103	270	13	19	302	366	19	28	413
		97.7	1.3	1.0	100.0	89.4	4.3	6.3	100.0	88.6	4.6	6.8	100.0

Table B-5

POSTGRADUATION STATUS OF MINORITY CHEMISTS BY HIGHEST DEGREE EARNED

EMPLOYMENT STATUS		PHD	MASTER	BACHELOR	ROW TOTAL
FULL-TIME IN CHEM.	COUNT	24	22	39	85
	% OF ROW	28.2	25.9	45.9	35.3
	% OF COL	43.6	44.0	28.7	
FULL-TIME NON-CHEM.		1	6	12	19
		5.3	31.6	63.2	7.9
		1.8	12.0	8.8	
POST-DOC OR ASST		26	16	30	72
		36.1	22.2	41.7	29.9
		47.3	32.0	22.1	
NOT EMPL-SEEKING		4	2	14	20
		20.0	10.0	70.0	8.3
		7.3	4.0	10.3	
NOT EMPL-NOT SEEKING		0	4	41	45
		0.0	8.9	91.1	18.7
		0.0	8.0	30.1	
COLUMN TOTAL		55	50	136	241
		22.8	20.7	56.4	100.0

ADVANCED STUDY PLANS FALL 1979

FULL-TIME	COUNT	5	19	73	97
	% OF ROW	5.2	19.6	75.3	40.2
	% OF COL	9.1	38.0	53.7	
PART-TIME		3	11	21	35
		8.6	31.4	60.0	14.5
		5.5	22.0	15.4	
NO PLANS		47	20	42	109
		43.1	18.3	38.5	45.2
		85.5	40.0	30.9	
COLUMN TOTAL		55	50	136	241
		22.8	20.7	56.4	100.0

Table B-7

POSTGRADUATION STATUS OF CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED AND SEX

EMPLOYMENT STATUS		BACHELOR MEN	BACHELOR WOMEN	BACHELOR ROW TOTAL	MASTER MEN	MASTER WOMEN	MASTER ROW TOTAL	PHD MEN	PHD WOMEN	PHD ROW TOTAL
FULL-TIME IN CHEM.	COUNT	680	168	848	96	10	106	40	2	42
	% OF ROW	80.2	19.8	71.6	90.6	9.4	68.4	95.2	4.8	89.4
	% OF COL	71.0	74.3		67.6	76.9		88.9	100.0	
FULL-TIME NON-CHEM		75	18	93	12	0	12	1	0	1
		80.6	19.4	7.9	100.0	0.0	7.7	100.0	0.0	2.1
		7.8	8.0		8.5	0.0		2.2	0.0	
POST-DOC OR ASST		105	20	125	25	2	27	3	0	3
		84.0	16.0	10.6	92.6	7.4	17.4	100.0	0.0	6.4
		11.0	8.8		17.6	15.4		6.7	0.0	
NOT EMPL-SEEKING		37	10	47	7	0	7	1	0	1
		78.7	21.3	4.0	100.0	0.0	4.5	100.0	0.0	2.1
		3.9	4.4		4.9	0.0		2.2	0.0	
NOT EMPL-NOT SEEKING		61	10	71	2	1	3	0	0	0
		85.9	14.1	6.0	66.7	33.3	1.9	0.0	0.0	0.0
		6.4	4.4		1.4	7.7		0.0	0.0	
COLUMN TOTAL		958	226	1184	142	13	155	45	2	47
		80.9	19.1	100.0	91.6	8.4	100.0	95.7	4.3	100.0

ADVANCED STUDY PLANS FALL 1979

FULL-TIME	COUNT	176	28	204	31	3	34	0	0	0
	% OF ROW	86.3	13.7	17.3	91.2	8.8	21.9	0.0	0.0	0.0
	% OF COL	18.5	12.4		21.8	23.1		0.0	0.0	
PART-TIME		222	55	277	23	0	23	1	0	1
		80.1	19.9	23.5	100.0	0.0	14.8	100.0	0.0	2.2
		23.3	24.3		16.2	0.0		2.3	0.0	
NO PLANS		553	143	696	88	10	98	43	2	45
		79.5	20.5	59.1	89.8	10.2	63.2	95.6	4.4	97.8
		58.1	63.3		62.0	76.9		97.7	100.0	
COLUMN TOTAL		951	226	1177	142	13	155	44	2	46
		80.8	19.2	100.0	91.6	8.4	100.0	95.7	4.3	100.0

POSTGRADUATION STATUS OF CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED AND CITIZENSHIP

EMPLOYMENT STATUS		BACHELOR				MASTER				PHD			
		U.S. CITIZEN	U.S. PERM. RESIDENT VISA	OTHER TYPE OF VISA	ROW TOTAL	U.S. CITIZEN	U.S. PERM. RESIDENT VISA	OTHER TYPE OF VISA	ROW TOTAL	U.S. CITIZEN	U.S. PERM. RESIDENT VISA	OTHER TYPE OF VISA	ROW TOTAL
FULL-TIME IN CHEM.	COUNT	829	17	3	849	95	7	4	106	29	6	7	42
	% OF ROW	97.6	2.0	0.4	71.6	89.6	6.6	3.8	68.4	69.0	14.3	16.7	89.4
	% OF COL	72.5	60.7	21.4		75.4	70.0	21.1		96.7	85.7	70.0	
FULL-TIME NON-CHEM.		93	1	0	94	11	0	1	12	1	0	0	1
		98.9	1.1	0.0	7.9	91.7	0.0	8.3	7.7	100.0	0.0	0.0	2.1
		8.1	3.6	0.0		8.7	0.0	5.3		3.3	0.0	0.0	
POST-DOC OR ASSI		116	2	7	125	18	1	8	27	0	0	3	3
		92.8	1.6	5.6	10.5	66.7	3.7	29.6	17.4	0.0	0.0	100.0	6.4
		10.1	7.1	50.0		14.3	10.0	42.1		0.0	0.0	30.0	
NOT EMPL-SEEKING		40	4	3	47	2	1	4	7	0	1	0	1
		85.1	8.5	6.4	4.0	28.6	14.3	57.1	4.5	0.0	100.0	0.0	2.1
		3.5	14.3	21.4		1.6	10.0	21.1		0.0	14.3	0.0	
NOT EMPL-NOT SEEKING		66	4	1	71	0	1	2	3	0	0	0	0
		93.0	5.6	1.4	6.0	0.0	33.3	66.7	1.9	0.0	0.0	0.0	0.0
		5.8	14.3	7.1		0.0	10.0	10.5		0.0	0.0	0.0	
COLUMN TOTAL		1144	28	14	1186	126	10	19	155	30	7	10	47
		96.5	2.4	1.2	100.0	81.3	6.5	12.3	100.0	63.8	14.9	21.3	100.0

ADVANCED STUDY PLANS FALL 1979

FULL-TIME	COUNT	189	6	9	204	19	2	13	34	0	0	0	0
	% OF ROW	92.6	2.9	4.4	17.3	55.9	5.9	38.2	21.9	0.0	0.0	0.0	0.0
	% OF COL	16.6	21.4	64.3		15.1	20.0	68.4		0.0	0.0	0.0	
PART-TIME		269	8	1	278	19	3	1	23	0	1	0	1
		96.8	2.9	0.4	23.6	82.6	13.0	4.3	14.8	0.0	100.0	0.0	2.2
		23.7	28.6	7.1		15.1	30.0	5.3		0.0	14.3	0.0	
NO PLANS		679	14	4	697	88	5	5	98	30	6	9	45
		97.4	2.0	0.6	59.1	89.8	5.1	5.1	63.2	66.7	13.3	20.0	97.8
		59.7	50.0	28.6		69.8	50.0	26.3		100.0	85.7	100.0	
COLUMN TOTAL		1137	28	14	1179	126	10	19	155	30	7	9	46
		96.4	2.4	1.2	100.0	81.3	6.5	12.3	100.0	65.2	15.2	19.6	100.0

POSTGRADUATION STATUS

OF MINORITY CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED

EMPLOYMENT STATUS		PHD	MASTER	BACHELOR	ROW TOTAL
FULL-TIME IN CHEM.	COUNT	14	18	53	85
	% OF ROW	16.5	21.2	62.4	60.3
	% OF COL	82.4	58.1	57.0	
FULL-TIME NON-CHEM.		0	1	7	8
		0.0	12.5	87.5	5.7
		0.0	3.2	7.5	
POST-DOC OR ASST		2	6	18	26
		7.7	23.1	69.2	18.4
		11.8	19.4	19.4	
NOT EMPL-SEEKING		1	5	8	14
		7.1	35.7	57.1	9.9
		5.9	16.1	8.6	
NOT EMPL-NOT SEEKING		0	1	7	8
		0.0	12.5	87.5	5.7
		0.0	3.2	7.5	
COLUMN TOTAL		17	31	93	141
		12.1	22.0	66.0	100.0

ADVANCED STUDY PLANS FALL 1979

FULL-TIME	COUNT	0	10	25	35
	% OF ROW	0.0	28.6	71.4	25.0
	% OF COL	0.0	32.3	26.9	
PART-TIME		1	5	17	23
		4.3	21.7	73.9	16.4
		6.3	16.1	18.3	
NO PLANS		15	16	51	82
		18.3	19.5	62.2	58.6
		93.8	51.6	54.8	
COLUMN TOTAL		16	31	93	140
		11.4	22.1	66.4	100.0

FIELD OF ADVANCED FURTHER STUDIES OF CHEMISTS

WHO PLAN FURTHER STUDIES (FULL-TIME OR PART-TIME) IN FALL, 1979

BY HIGHEST DEGREE EARNED AND SEX

FIELD OF ADVANCED STUDY		BACHELOR MEN	BACHELOR WOMEN	BACHELOR ROW TOTAL	MASTER MEN	MASTER WOMEN	MASTER ROW TOTAL	PHD MEN	PHD WOMEN	PHD ROW TOTAL
CHEMISTRY	COUNT	380	108	488	89	21	110	30	1	31
	% OF ROW	77.9	22.1	33.8	80.9	19.1	67.1	96.8	3.2	52.5
	% OF COL	35.7	28.6		67.4	65.6		53.6	33.3	
OTHER PHYSICAL SCI., MATH.		19	11	30	0	1	1	1	1	2
		63.3	36.7	2.1	0.0	100.0	0.6	50.0	50.0	3.4
		1.8	2.9		0.0	3.1		1.8	33.3	
CHEMICAL ENG		48	24	72	7	1	8	3	0	3
		66.7	33.3	5.0	87.5	12.5	4.9	100.0	0.0	5.1
		4.5	6.4		5.3	3.1		5.4	0.0	
OTHER ENG		20	7	27	2	2	4	3	0	3
		74.1	25.9	1.9	50.0	50.0	2.4	100.0	0.0	5.1
		1.9	1.9		1.5	6.3		5.4	0.0	
BIOCHEMISTRY		42	34	76	4	0	4	1	0	1
		55.3	44.7	5.3	100.0	0.0	2.4	100.0	0.0	1.7
		3.9	9.0		3.0	0.0		1.8	0.0	
OTHER LIFE SCI.		23	9	32	3	0	3	1	0	1
		71.9	28.1	2.2	100.0	0.0	1.8	100.0	0.0	1.7
		2.2	2.4		2.3	0.0		1.8	0.0	
MEDICINE		319	88	407	8	0	8	3	0	3
		78.4	21.6	28.2	100.0	0.0	4.9	100.0	0.0	5.1
		30.0	23.3		6.1	0.0		5.4	0.0	
DENTISTRY		73	8	81	1	0	1	0	0	0
		90.1	9.9	5.6	100.0	0.0	0.6	0.0	0.0	0.0
		6.9	2.1		0.8	0.0		0.0	0.0	
PHARMACY, PHARMACOLOGY		13	13	26	1	1	2	1	0	1
		50.0	50.0	1.8	50.0	50.0	1.2	100.0	0.0	1.7
		1.2	3.4		0.8	3.1		1.8	0.0	
BUSINESS, MANAGEMENT		58	29	87	8	3	11	9	1	10
		66.7	33.3	6.0	72.7	27.3	6.7	90.0	10.0	16.9
		5.4	7.7		6.1	9.4		16.1	33.3	
LAW		13	3	16	2	1	3	0	0	0
		81.3	18.8	1.1	66.7	33.3	1.8	0.0	0.0	0.0
		1.2	0.8		1.5	3.1		0.0	0.0	
SOCIAL SCIENCES, HUMANITIES		5	1	6	0	0	0	0	0	0
		83.3	16.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0
		0.5	0.3		0.0	0.0		0.0	0.0	
OTHER		52	42	94	7	2	9	4	0	4
		55.3	44.7	6.5	77.8	22.2	5.5	100.0	0.0	6.8
		4.9	11.1		5.3	6.3		7.1	0.0	
COLUMN TOTAL		1065	377	1442	132	32	164	56	3	59
		73.9	26.1	100.0	80.5	19.5	100.0	94.9	5.1	100.0

FIELD OF ADVANCED FURTHER STUDIES OF B.S. CHEMISTS

WHO PLAN FURTHER STUDIES (FULL-TIME OR PART-TIME) IN FALL, 1979

BY CERTIFICATION STATUS

FIELD OF ADVANCED STUDY		CERTIFIED	NON CERTIFIED	ROW TOTAL
CHEMISTRY	COUNT	352	136	488
	% OF ROW	72.1	27.9	33.7
	% OF COL	48.4	18.9	
OTHER PHYSICAL SCI., MATH.		18	12	30
		60.0	40.0	2.1
		2.5	1.7	
CHEMICAL ENG		45	27	72
		62.5	37.5	5.0
		6.2	3.8	
OTHER ENG		12	16	28
		42.9	57.1	1.9
		1.6	2.2	
BIOCHEMISTRY		50	27	77
		64.9	35.1	5.3
		6.9	3.8	
OTHER LIFE SCI		6	26	32
		18.8	81.3	2.2
		0.8	3.6	
MEDICINE		126	282	408
		30.9	69.1	28.2
		17.3	39.3	
DENTISTRY		17	64	81
		21.0	79.0	5.6
		2.3	8.9	
PHARMACY, PHARMACOLOGY		15	11	26
		57.7	42.3	1.8
		2.1	1.5	
BUSINESS, MANAGEMENT		40	47	87
		46.0	54.0	6.0
		5.5	6.5	
LAW		7	9	16
		43.8	56.3	1.1
		1.0	1.3	
SOCIAL SCIENCES, HUMANITIES		3	3	6
		50.0	50.0	0.4
		0.4	0.4	
OTHER		37	58	95
		38.9	61.1	6.6
		5.1	8.1	
COLUMN TOTAL		728	718	1446
		50.3	49.7	100.0

FIELD OF ADVANCED FURTHER STUDIES OF CHEMICAL ENGINEERS

WHO PLAN FURTHER STUDIES (FULL-TIME OR PART-TIME) IN FALL, 1979

BY HIGHEST DEGREE EARNED AND SEX

FIELD OF ADVANCED STUDY		BACHELOR MEN	BACHELOR WOMEN	BACHELOR ROW TOTAL	MASTER MEN	MASTER WOMEN	MASTER ROW TOTAL	PHD MEN	PHD ROW TOTAL
CHEMISTRY	COUNT	10	1	11	0	0	0	0	0
	% OF ROW	90.9	9.1	2.3	0.0	0.0	0.0	0.0	0.0
	% OF COL	2.5	1.2		0.0	0.0		0.0	
OTHER PHYSICAL SCI., MATH.	COUNT	5	1	6	0	0	0	0	0
	% OF ROW	83.3	16.7	1.3	0.0	0.0	0.0	0.0	0.0
	% OF COL	1.3	1.2		0.0	0.0		0.0	
CHEMICAL ENG	COUNT	172	35	207	32	3	35	0	0
	% OF ROW	83.1	16.9	43.1	91.4	8.6	61.4	0.0	0.0
	% OF COL	43.3	42.2		59.3	100.0		0.0	
OTHER ENG	COUNT	21	4	25	2	0	2	0	0
	% OF ROW	84.0	16.0	5.2	100.0	0.0	3.5	0.0	0.0
	% OF COL	5.3	4.8		3.7	0.0		0.0	
BIOCHEMISTRY	COUNT	1	0	1	0	0	0	0	0
	% OF ROW	100.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
	% OF COL	0.3	0.0		0.0	0.0		0.0	
OTHER LIFE SCI	COUNT	0	2	2	0	0	0	0	0
	% OF ROW	0.0	100.0	0.4	0.0	0.0	0.0	0.0	0.0
	% OF COL	0.0	2.4		0.0	0.0		0.0	
MEDICINE	COUNT	24	7	31	2	0	2	0	0
	% OF ROW	77.4	22.6	6.5	100.0	0.0	3.5	0.0	0.0
	% OF COL	6.0	8.4		3.7	0.0		0.0	
DENTISTRY	COUNT	3	0	3	0	0	0	0	0
	% OF ROW	100.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
	% OF COL	0.8	0.0		0.0	0.0		0.0	
BUSINESS, MANAGEMENT	COUNT	136	31	167	11	0	11	0	0
	% OF ROW	81.4	18.6	34.8	100.0	0.0	19.3	0.0	0.0
	% OF COL	34.3	37.3		20.4	0.0		0.0	
LAW	COUNT	7	0	7	0	0	0	0	0
	% OF ROW	100.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
	% OF COL	1.8	0.0		0.0	0.0		0.0	
SOCIAL SCIENCES, HUMANITIES	COUNT	2	0	2	1	0	1	0	0
	% OF ROW	100.0	0.0	0.4	100.0	0.0	1.8	0.0	0.0
	% OF COL	0.5	0.0		1.9	0.0		0.0	
OTHER	COUNT	16	2	18	6	0	6	1	1
	% OF ROW	88.9	11.1	3.8	100.0	0.0	10.5	100.0	100.0
	% OF COL	4.0	2.4		11.1	0.0		100.0	
COLUMN TOTAL	COUNT	397	83	480	54	3	57	1	1
	% OF ROW	82.7	17.3	100.0	94.7	5.3	100.0	100.0	100.0

Table C-4

FIELD OF ADVANCED FURTHER STUDIES OF CHEMISTS

WHO PLAN FURTHER STUDIES (FULL-TIME) IN FALL, 1979

BY HIGHEST DEGREE EARNED AND SEX

FIELD OF ADVANCED STUDY		BACHELOR MEN	BACHELOR WOMEN	BACHELOR ROW TOTAL	MASTER MEN	MASTER WOMEN	MASTER ROW TOTAL	PHD MEN	PHD WOMEN	PHD ROW TOTAL
CHEMISTRY	COUNT	313	85	398	70	20	90	29	0	29
	% OF ROW	78.6	21.4	34.6	77.8	22.2	74.4	100.0	0.0	78.4
	% OF COL	35.7	30.9		70.7	90.9		80.6	0.0	
OTHER PHYSICAL SCI., MATH.		11	6	17	0	0	0	0	0	0
		64.7	35.3	1.5	0.0	0.0	0.0	0.0	0.0	0.0
		1.3	2.2		0.0	0.0		0.0	0.0	
CHEMICAL ENG		33	15	48	3	0	3	0	0	0
		68.8	31.3	4.2	100.0	0.0	2.5	0.0	0.0	0.0
		3.8	5.5		3.0	0.0		0.0	0.0	
OTHER ENG		10	3	13	2	0	2	0	0	0
		76.9	23.1	1.1	100.0	0.0	1.7	0.0	0.0	0.0
		1.1	1.1		2.0	0.0		0.0	0.0	
BIOCHEMISTRY		34	24	58	4	0	4	1	0	1
		58.6	41.4	5.0	100.0	0.0	3.3	100.0	0.0	2.7
		3.9	8.7		4.0	0.0		2.8	0.0	
OTHER LIFE SCI.		18	3	21	2	0	2	1	0	1
		85.7	14.3	1.8	100.0	0.0	1.7	100.0	0.0	2.7
		2.1	1.1		2.0	0.0		2.8	0.0	
MEDICINE		312	86	398	8	0	8	1	0	1
		78.4	21.6	34.6	100.0	0.0	6.6	100.0	0.0	2.7
		35.6	31.3		8.1	0.0		2.8	0.0	
DENTISTRY		72	8	80	1	0	1	0	0	0
		90.0	10.0	7.0	100.0	0.0	0.8	0.0	0.0	0.0
		8.2	2.9		1.0	0.0		0.0	0.0	
PHARMACY, PHARMACOLOGY		11	9	20	1	1	2	1	0	1
		55.0	45.0	1.7	50.0	50.0	1.7	100.0	0.0	2.7
		1.3	3.3		1.0	4.5		2.8	0.0	
BUSINESS, MANAGEMENT		15	3	18	1	0	1	0	1	1
		83.3	16.7	1.6	100.0	0.0	0.8	0.0	100.0	2.7
		1.7	1.1		1.0	0.0		0.0	100.0	
LAW		12	2	14	1	0	1	0	0	0
		85.7	14.3	1.2	100.0	0.0	0.8	0.0	0.0	0.0
		1.4	0.7		1.0	0.0		0.0	0.0	
SOCIAL SCIENCES, HUMANITIES		1	1	2	0	0	0	0	0	0
		50.0	50.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
		0.1	0.4		0.0	0.0		0.0	0.0	
OTHER		34	30	64	6	1	7	3	0	3
		53.1	46.9	5.6	85.7	14.3	5.8	100.0	0.0	8.1
		3.9	10.9		6.1	4.5		8.3	0.0	
COLUMN TOTAL		876	275	1151	99	22	121	36	1	37
		76.1	23.9	100.0	81.8	18.2	100.0	97.3	2.7	100.0

Table C-5

FIELD OF ADVANCED FURTHER STUDIES OF B.S. CHEMISTS WHO PLAN FURTHER STUDIES (FULL-TIME) IN FALL, 1979 BY CERTIFICATION STATUS

FIELD OF ADVANCED STUDY		CERTIFIED	NON CERTIFIED	ROW TOTAL
CHEMISTRY	COUNT	301	97	398
	% OF ROW	75.6	24.4	34.5
	% OF COL	50.8	17.3	
OTHER PHYSICAL SCI., MATH.		14	3	17
		82.4	17.6	1.5
		2.4	0.5	
CHEMICAL ENG		32	16	48
		66.7	33.3	4.2
		5.4	2.9	
OTHER ENG		7	7	14
		50.0	50.0	1.2
		1.2	1.2	
BIOCHEMISTRY		42	16	58
		72.4	27.6	5.0
		7.1	2.9	
OTHER LIFE SCI		4	17	21
		19.0	81.0	1.8
		0.7	3.0	
MEDICINE		124	275	399
		31.1	68.9	34.6
		20.9	49.0	
DENTISTRY		16	64	80
		20.0	80.0	6.9
		2.7	11.4	
PHARMACY, PHARMACOLOGY		12	8	20
		60.0	40.0	1.7
		2.0	1.4	
BUSINESS, MANAGEMENT		9	9	18
		50.0	50.0	1.6
		1.5	1.6	
LAW		6	8	14
		42.9	57.1	1.2
		1.0	1.4	
SOCIAL SCIENCES, HUMANITIES		0	2	2
		0.0	100.0	0.2
		0.0	0.4	
OTHER		26	39	65
		40.0	60.0	5.6
		4.4	7.0	
COLUMN TOTAL		593	561	1154
		51.4	48.6	100.0

FIELD OF ADVANCED FURTHER STUDIES OF CHEMICAL ENGINEERS

WHO PLAN FURTHER STUDIES (FULL-TIME) IN FALL, 1979

BY HIGHEST DEGREE EARNED AND SEX

FIELD OF ADVANCED STUDY		BACHELOR			MASTER		
		MEN	WOMEN	ROW TOTAL	MEN	WOMEN	ROW TOTAL
CHEMISTRY	COUNT	4	0	4	0	0	0
	% OF ROW	100.0	0.0	2.0	0.0	0.0	0.0
	% OF COL	2.3	0.0		0.0	0.0	
OTHER PHYSICAL SCI., MATH.		3	0	3	0	0	0
		100.0	0.0	1.5	0.0	0.0	0.0
		1.7	0.0		0.0	0.0	
CHEMICAL ENG		105	18	123	27	3	30
		85.4	14.6	60.6	90.0	10.0	88.2
		60.0	64.3		87.1	100.0	
OTHER ENG		12	1	13	2	0	2
		92.3	7.7	6.4	100.0	0.0	5.9
		6.9	3.6		6.5	0.0	
OTHER LIFE SCI.		0	1	1	0	0	0
		0.0	100.0	0.5	0.0	0.0	0.0
		0.0	3.6		0.0	0.0	
MEDICINE		23	7	30	1	0	1
		76.7	23.3	14.8	100.0	0.0	2.9
		13.1	25.0		3.2	0.0	
DENTISTRY		3	0	3	0	0	0
		100.0	0.0	1.5	0.0	0.0	0.0
		1.7	0.0		0.0	0.0	
BUSINESS, MANAGEMENT		15	1	16	0	0	0
		93.8	6.3	7.9	0.0	0.0	0.0
		8.6	3.6		0.0	0.0	
LAW		7	0	7	0	0	0
		100.0	0.0	3.4	0.0	0.0	0.0
		4.0	0.0		0.0	0.0	
SOCIAL SCIENCES, HUMANITIES		1	0	1	0	0	0
		100.0	0.0	0.5	0.0	0.0	0.0
		0.6	0.0		0.0	0.0	
OTHER		2	0	2	1	0	1
		100.0	0.0	1.0	100.0	0.0	2.9
		1.1	0.0		3.2	0.0	
COLUMN TOTAL		175	28	203	31	3	34
		86.2	13.8	100.0	91.2	8.8	100.0

Table C-7

PLANS FOR FURTHER STUDIES

OF UNEMPLOYED CHEMISTS AND CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED AND SEX

NOT SEEKING EMPLOYMENT

ADVANCED STUDY PLANS FALL 1979		CHEMISTRY MEN	CHEMISTRY WOMEN	CHEMISTRY ROW TOTAL	CHEMICAL ENG MEN	CHEMICAL ENG WOMEN	CHEMICAL ENG ROW TOTAL
BACHELOR							
FULL-TIME	COUNT	470	127	597	59	8	67
	% OF ROW	78.7	21.3	92.6	88.1	11.9	94.4
	% OF COL	93.3	90.1		96.7	80.0	
PART-TIME		13	5	18	0	0	0
		72.2	27.8	2.8	0.0	0.0	0.0
		2.6	3.5		0.0	0.0	
NO PLANS		21	9	30	2	2	4
		70.0	30.0	4.7	50.0	50.0	5.6
		4.2	6.4		3.3	20.0	
COLUMN TOTAL		504	141	645	61	10	71
		78.1	21.9	100.0	85.9	14.1	100.0
MASTER							
FULL-TIME	COUNT	23	2	25	2	1	3
	% OF ROW	92.0	8.0	86.2	66.7	33.3	100.0
	% OF COL	100.0	33.3		100.0	100.0	
NO PLANS		0	4	4	0	0	0
		0.0	100.0	13.8	0.0	0.0	0.0
		0.0	66.7		0.0	0.0	
COLUMN TOTAL		23	6	29	2	1	3
		79.3	20.7	100.0	66.7	33.3	100.0
PHD							
FULL-TIME	COUNT	1	0	1	0	0	0
	% OF ROW	100.0	0.0	100.0	0.0	0.0	0.0
	% OF COL	100.0	0.0		0.0	0.0	
COLUMN TOTAL		1	0	1	0	0	0
		100.0	0.0	100.0	0.0	0.0	0.0

Table D-1

AGE DISTRIBUTION

OF B.S. CHEMISTS AND CHEMICAL ENGINEERS

BY SEX

AGE		CHEMISTRY MEN	CHEMISTRY WOMEN	CHEMISTRY ROW TOTAL	CHEMICAL ENG MEN	CHEMICAL ENG WOMEN	CHEMICAL ENG ROW TOTAL
19	COUNT	4	1	5	1	0	1
	% OF ROW	80.0	20.0	0.2	100.0	0.0	0.1
	% OF COL	0.3	0.2		0.1	0.0	
20		30	20	50	11	6	17
		60.0	40.0	2.4	64.7	35.3	1.4
		2.0	3.2		1.2	2.7	
21		451	229	680	258	84	342
		66.3	33.7	32.5	75.4	24.6	29.1
		30.6	37.1		27.1	37.7	
22		606	247	853	398	90	488
		71.0	29.0	40.8	81.6	18.4	41.5
		41.1	40.0		41.8	40.4	
23		177	47	224	172	27	199
		79.0	21.0	10.7	86.4	13.6	16.9
		12.0	7.6		18.1	12.1	
24		58	19	77	42	6	48
		75.3	24.7	3.7	87.5	12.5	4.1
		3.9	3.1		4.4	2.7	
25		34	10	44	17	2	19
		77.3	22.7	2.1	89.5	10.5	1.6
		2.3	1.6		1.8	0.9	
26		30	6	36	15	2	17
		83.3	16.7	1.7	88.2	11.8	1.4
		2.0	1.0		1.6	0.9	
27		21	3	24	13	1	14
		87.5	12.5	1.1	92.9	7.1	1.2
		1.4	0.5		1.4	0.4	
28		20	7	27	6	2	8
		74.1	25.9	1.3	75.0	25.0	0.7
		1.4	1.1		0.6	0.9	
29		9	4	13	7	0	7
		69.2	30.8	0.6	100.0	0.0	0.6
		0.6	0.6		0.7	0.0	
30-34		20	15	35	9	1	10
		57.1	42.9	1.7	90.0	10.0	0.9
		1.4	2.4		0.9	0.4	
35-39		7	8	15	2	1	3
		46.7	53.3	0.7	66.7	33.3	0.3
		0.5	1.3		0.2	0.4	
40-49		5	2	7	1	0	1
		71.4	28.6	0.3	100.0	0.0	0.1
		0.3	0.3		0.1	0.0	
50-64		1	0	1	0	1	1
		100.0	0.0	0.0	0.0	100.0	0.1
		0.1	0.0		0.0	0.4	
	COLUMN TOTAL	1473	618	2091	952	223	1175
		70.4	29.6	100.0	81.0	19.0	100.0

Table D-2

AGE DISTRIBUTION

OF M.S. CHEMISTS AND CHEMICAL ENGINEERS

BY SEX

AGE		CHEMISTRY MEN	CHEMISTRY WOMEN	CHEMISTRY ROW TOTAL	CHEMICAL ENG MEN	CHEMICAL ENG WOMEN	CHEMICAL ENG ROW TOTAL
20	COUNT	1	0	1	0	0	0
	% OF ROW	100.0	0.0	0.3	0.0	0.0	0.0
	% OF COL	0.5	0.0		0.0	0.0	
21		1	2	3	2	0	2
		33.3	66.7	1.0	100.0	0.0	1.3
		0.5	2.6		1.4	0.0	
22		5	3	8	7	3	10
		62.5	37.5	2.7	70.0	30.0	6.5
		2.3	3.8		4.9	23.1	
23		20	4	24	26	3	29
		83.3	16.7	8.0	89.7	10.3	18.7
		9.0	5.1		18.3	23.1	
24		43	21	64	36	1	37
		67.2	32.8	21.4	97.3	2.7	23.9
		19.5	26.9		25.4	7.7	
25		41	10	51	25	3	28
		80.4	19.6	17.1	89.3	10.7	18.1
		18.6	12.8		17.6	23.1	
26		22	9	31	10	1	11
		71.0	29.0	10.4	90.9	9.1	7.1
		10.0	11.5		7.0	7.7	
27		30	6	36	7	0	7
		83.3	16.7	12.0	100.0	0.0	4.5
		13.6	7.7		4.9	0.0	
28		10	4	14	11	2	13
		71.4	28.6	4.7	84.6	15.4	8.4
		4.5	5.1		7.7	15.4	
29		10	3	13	5	0	5
		76.9	23.1	4.3	100.0	0.0	3.2
		4.5	3.8		3.5	0.0	
30-34		27	12	39	9	0	9
		69.2	30.8	13.0	100.0	0.0	5.8
		12.2	15.4		6.3	0.0	
35-39		9	3	12	4	0	4
		75.0	25.0	4.0	100.0	0.0	2.6
		4.1	3.8		2.8	0.0	
40-49		2	1	3	0	0	0
		66.7	33.3	1.0	0.0	0.0	0.0
		0.9	1.3		0.0	0.0	
	COLUMN TOTAL	221	78	299	142	13	155
		73.9	26.1	100.0	91.6	8.4	100.0

Table D-3

AGE DISTRIBUTION

OF PH.D. CHEMISTS AND CHEMICAL ENGINEERS

BY SEX

AGE		CHEMISTRY MEN	CHEMISTRY WOMEN	CHEMISTRY ROW TOTAL	CHEMICAL ENG MEN	CHEMICAL ENG WOMEN	CHEMICAL ENG ROW TOTAL
21	COUNT	0	1	1	0	0	0
	% OF ROW	0.0	100.0	0.2	0.0	0.0	0.0
	% OF COL	0.0	2.0		0.0	0.0	
23		0	0	0	0	1	1
		0.0	0.0	0.0	0.0	100.0	2.1
		0.0	0.0		0.0	50.0	
24		5	0	5	0	0	0
		100.0	0.0	1.2	0.0	0.0	0.0
		1.4	0.0		0.0	0.0	
25		9	3	12	1	0	1
		75.0	25.0	2.9	100.0	0.0	2.1
		2.5	5.9		2.2	0.0	
26		66	9	75	8	0	8
		88.0	12.0	18.1	100.0	0.0	17.0
		18.1	17.6		17.8	0.0	
27		96	15	111	14	0	14
		86.5	13.5	26.7	100.0	0.0	29.8
		26.4	29.4		31.1	0.0	
28		56	6	62	11	0	11
		90.3	9.7	14.9	100.0	0.0	23.4
		15.4	11.8		24.4	0.0	
29		38	6	44	4	0	4
		86.4	13.6	10.6	100.0	0.0	8.5
		10.4	11.8		8.9	0.0	
30-34		79	3	82	3	1	4
		96.3	3.7	19.8	75.0	25.0	8.5
		21.7	5.9		6.7	50.0	
35-39		11	5	16	3	0	3
		68.8	31.3	3.9	100.0	0.0	6.4
		3.0	9.8		6.7	0.0	
40-49		2	2	4	1	0	1
		50.0	50.0	1.0	100.0	0.0	2.1
		0.5	3.9		2.2	0.0	
50-64		2	1	3	0	0	0
		66.7	33.3	0.7	0.0	0.0	0.0
		0.5	2.0		0.0	0.0	
	COLUMN TOTAL	364	51	415	45	2	47
		87.7	12.3	100.0	95.7	4.3	100.0

Table D-4

AGE DISTRIBUTION

OF POSTDOCTORAL CHEMISTS AND CHEMICAL ENGINEERS

BY SEX

		CHEMISTRY			CHEMICAL ENG	
AGE		MEN	WOMEN	ROW TOTAL	MEN	ROW TOTAL
24	COUNT	2	0	2	0	0
	% OF ROW	100.0	0.0	1.3	0.0	0.0
	% OF COL	1.4	0.0		0.0	
25		3	1	4	0	0
		75.0	25.0	2.5	0.0	0.0
		2.1	5.6		0.0	
26		29	4	33	0	0
		87.9	12.1	20.9	0.0	0.0
		20.7	22.2		0.0	
27		43	6	49	0	0
		87.8	12.2	31.0	0.0	0.0
		30.7	33.3		0.0	
28		19	3	22	1	1
		86.4	13.6	13.9	100.0	33.3
		13.6	16.7		33.3	
29		13	1	14	1	1
		92.9	7.1	8.9	100.0	33.3
		9.3	5.6		33.3	
30-34		27	2	29	1	1
		93.1	6.9	18.4	100.0	33.3
		19.3	11.1		33.3	
35-39		3	1	4	0	0
		75.0	25.0	2.5	0.0	0.0
		2.1	5.6		0.0	
50-64		1	0	1	0	0
		100.0	0.0	0.6	0.0	0.0
		0.7	0.0		0.0	
	COLUMN TOTAL	140	18	158	3	3
		88.6	11.4	100.0	100.0	100.0

NUMBER OF FIRM JOB OFFERS TO FULL-TIME EMPLOYED CHEMISTS

BY HIGHEST DEGREE EARNED AND SEX

NUMBER OF OFFERS		BACHELOR MEN	BACHELOR WOMEN	BACHELOR ROW TOTAL	MASTER MEN	MASTER WOMEN	MASTER ROW TOTAL	PHD MEN	PHD WOMEN	PHD ROW TOTAL
INEXPERIENCED										
1	COUNT	124	73	197	29	10	39	53	6	59
	% OF ROW	62.9	37.1	44.9	74.4	25.6	47.0	89.8	10.2	40.1
	% OF COL	45.9	43.2		48.3	43.5		39.8	42.9	
2		84	53	137	21	6	27	34	4	38
		61.3	38.7	31.2	77.8	22.2	32.5	89.5	10.5	25.9
		31.1	31.4		35.0	26.1		25.6	28.6	
3		33	27	60	7	3	10	23	1	24
		55.0	45.0	13.7	70.0	30.0	12.0	95.8	4.2	16.3
		12.2	16.0		11.7	13.0		17.3	7.1	
4		17	7	24	1	2	3	6	1	7
		70.8	29.2	5.5	33.3	66.7	3.6	85.7	14.3	4.8
		6.3	4.1		1.7	8.7		4.5	7.1	
5		3	5	8	1	2	3	10	1	11
		37.5	62.5	1.8	33.3	66.7	3.6	90.9	9.1	7.5
		1.1	3.0		1.7	8.7		7.5	7.1	
6-7		5	3	8	1	0	1	3	0	3
		62.5	37.5	1.8	100.0	0.0	1.2	100.0	0.0	2.0
		1.9	1.8		1.7	0.0		2.3	0.0	
8-9		1	0	1	0	0	0	0	0	0
		100.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
		0.4	0.0		0.0	0.0		0.0	0.0	
10 OR MORE		3	1	4	0	0	0	4	1	5
		75.0	25.0	0.9	0.0	0.0	0.0	80.0	20.0	3.4
		1.1	0.6		0.0	0.0		3.0	7.1	
COLUMN TOTAL		270	169	439	60	23	83	133	14	147
		61.5	38.5	100.0	72.3	27.7	100.0	90.5	9.5	100.0
EXPERIENCED										
1	COUNT	38	20	58	19	6	25	23	5	28
	% OF ROW	65.5	34.5	46.8	76.0	24.0	47.2	82.1	17.9	38.4
	% OF COL	45.2	50.0		52.8	35.3		38.3	38.5	
2		14	13	27	8	8	16	14	5	19
		51.9	48.1	21.8	50.0	50.0	30.2	73.7	26.3	26.0
		16.7	32.5		22.2	47.1		23.3	38.5	
3		23	4	27	5	2	7	11	0	11
		85.2	14.8	21.8	71.4	28.6	13.2	100.0	0.0	15.1
		27.4	10.0		13.9	11.8		18.3	0.0	
4		1	2	3	2	0	2	5	1	6
		33.3	66.7	2.4	100.0	0.0	3.8	83.3	16.7	8.2
		1.2	5.0		5.6	0.0		8.3	7.7	
5		4	0	4	0	0	0	5	2	7
		100.0	0.0	3.2	0	0	0.0	71.4	28.6	9.6
		4.8	0.0		0.0	0.0		8.3	15.4	
6-7		2	0	2	1	1	2	1	0	1
		100.0	0.0	1.6	50.0	50.0	3.8	100.0	0.0	1.4
		2.4	0.0		2.8	5.9		1.7	0.0	
10 OR MORE		2	1	3	1	0	1	1	0	1
		66.7	33.3	2.4	100.0	0.0	1.9	100.0	0.0	1.4
		2.4	2.5		2.8	0.0		1.7	0.0	
COLUMN TOTAL		84	40	124	36	17	53	60	13	73
		67.7	32.3	100.0	67.9	32.1	100.0	82.2	17.8	100.0

Table E-2

NUMBER OF FIRM JOB OFFERS TO FULL-TIME EMPLOYED CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED AND SEX

NUMBER OF OFFERS		BACHELOR			MASTER			PHD		
		MEN	WOMEN	ROW TOTAL	MEN	WOMEN	ROW TOTAL	MEN	WOMEN	ROW TOTAL
INEXPERIENCED										
1	COUNT	103	17	120	8	0	8	6	0	6
	% OF ROW	85.8	14.2	16.6	100.0	0.0	11.9	100.0	0.0	18.2
	% OF COL	17.8	11.6		13.3	0.0		18.2	0.0	
2		124	19	143	4	2	6	7	0	7
		86.7	13.3	19.7	66.7	33.3	9.0	100.0	0.0	21.2
		21.5	12.9		6.7	28.6		21.2	0.0	
3		123	30	153	15	0	15	4	0	4
		80.4	19.6	21.1	100.0	0.0	22.4	100.0	0.0	12.1
		21.3	20.4		25.0	0.0		12.1	0.0	
4		68	21	89	11	2	13	4	0	4
		76.4	23.6	12.3	84.6	15.4	19.4	100.0	0.0	12.1
		11.8	14.3		18.3	28.6		12.1	0.0	
5		58	16	74	10	1	11	3	0	3
		78.4	21.6	10.2	90.9	9.1	16.4	100.0	0.0	9.1
		10.0	10.9		16.7	14.3		9.1	0.0	
6-7		48	10	58	5	0	5	1	0	1
		82.8	17.2	8.0	100.0	0.0	7.5	100.0	0.0	3.0
		8.3	6.8		8.3	0.0		3.0	0.0	
8-9		10	10	20	0	0	0	1	0	1
		50.0	50.0	2.8	0.0	0.0	0.0	100.0	0.0	3.0
		1.7	6.8		0.0	0.0		3.0	0.0	
10 OR MORE		44	24	68	7	2	9	7	0	7
		64.7	35.3	9.4	77.8	22.2	13.4	100.0	0.0	21.2
		7.6	16.3		11.7	28.6		21.2	0.0	
	COLUMN TOTAL	578	147	725	60	7	67	33	0	33
		79.7	20.3	100.0	89.6	10.4	100.0	100.0	0.0	100.0
EXPERIENCED										
1	COUNT	17	0	17	6	2	8	1	1	2
	% OF ROW	100.0	0.0	14.4	75.0	25.0	22.9	50.0	50.0	25.0
	% OF COL	17.0	0.0		18.8	66.7		16.7	50.0	
2		16	4	20	3	0	3	2	0	2
		80.0	20.0	16.9	100.0	0.0	8.6	100.0	0.0	25.0
		16.0	22.2		9.4	0.0		33.3	0.0	
3		18	3	21	7	0	7	3	0	3
		85.7	14.3	17.8	100.0	0.0	20.0	100.0	0.0	37.5
		18.0	16.7		21.9	0.0		50.0	0.0	
4		11	1	12	4	0	4	0	0	0
		91.7	8.3	10.2	100.0	0.0	11.4	0.0	0.0	0.0
		11.0	5.6		12.5	0.0		0.0	0.0	
5		10	3	13	5	0	5	0	0	0
		76.9	23.1	11.0	100.0	0.0	14.3	0.0	0.0	0.0
		10.0	16.7		15.6	0.0		0.0	0.0	
6-7		13	3	16	4	1	5	0	1	1
		81.3	18.8	13.6	80.0	20.0	14.3	0.0	100.0	12.5
		13.0	16.7		12.5	33.3		0.0	50.0	
8-9		3	1	4	0	0	0	0	0	0
		75.0	25.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
		3.0	5.6		0.0	0.0		0.0	0.0	
10 OR MORE		12	3	15	3	0	3	0	0	0
		80.0	20.0	12.7	100.0	0.0	8.6	0.0	0.0	0.0
		12.0	16.7		9.4	0.0		0.0	0.0	
	COLUMN TOTAL	100	18	118	32	3	35	6	2	8
		84.7	15.3	100.0	91.4	8.6	100.0	75.0	25.0	100.0

MINORITY CLASSIFICATION AND CITIZENSHIP OR VISA STATUS OF CHEMISTS

BY HIGHEST DEGREE EARNED

CITIZENSHIP OR VISA STATUS		BLACK	AMERICAN INDIAN	ASIAN	HISPANIC	NONE OF THE ABOVE	ROW TOTAL
BACHELOR							
U.S. CITIZEN	COUNT	33	5	48	26	1914	2026
	% OF ROW	1.6	0.2	2.4	1.3	94.5	97.7
	% OF COL	80.5	83.3	81.4	86.7	98.8	
U.S. PERMANENT RESIDENT VISA	COUNT	3	0	8	2	14	27
	% OF ROW	11.1	0.0	29.6	7.4	51.9	1.3
	% OF COL	7.3	0.0	13.6	6.7	0.7	
OTHER TYPE OF VISA	COUNT	5	1	3	2	9	20
	% OF ROW	25.0	5.0	15.0	10.0	45.0	1.0
	% OF COL	12.2	16.7	5.1	6.7	0.5	
COLUMN TOTAL		41	6	59	30	1937	2073
		2.0	0.3	2.8	1.4	93.4	100.0
MASTER							
U.S. CITIZEN	COUNT	4	3	9	7	242	265
	% OF ROW	1.5	1.1	3.4	2.6	91.3	89.2
	% OF COL	57.1	100.0	29.0	77.8	98.0	
U.S. PERMANENT RESIDENT VISA	COUNT	1	0	9	2	1	13
	% OF ROW	7.7	0.0	69.2	15.4	7.7	4.4
	% OF COL	14.3	0.0	29.0	22.2	0.4	
OTHER TYPE OF VISA	COUNT	2	0	13	0	4	19
	% OF ROW	10.5	0.0	68.4	0.0	21.1	6.4
	% OF COL	28.6	0.0	41.9	0.0	1.6	
COLUMN TOTAL		7	3	31	9	247	297
		2.4	1.0	10.4	3.0	83.2	100.0
PHD							
U.S. CITIZEN	COUNT	0	5	8	3	344	360
	% OF ROW	0.0	1.4	2.2	0.8	95.6	88.7
	% OF COL	0.0	62.5	19.0	75.0	97.7	
U.S. PERMANENT RESIDENT VISA	COUNT	0	0	13	0	6	19
	% OF ROW	0.0	0.0	68.4	0.0	31.6	4.7
	% OF COL	0.0	0.0	31.0	0.0	1.7	
OTHER TYPE OF VISA	COUNT	0	3	21	1	2	27
	% OF ROW	0.0	11.1	77.8	3.7	7.4	6.7
	% OF COL	0.0	37.5	50.0	25.0	0.6	
COLUMN TOTAL		0	8	42	4	352	406
		0.0	2.0	10.3	1.0	86.7	100.0

Table F-2

MINORITY CLASSIFICATION AND CITIZENSHIP OR VISA STATUS OF CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED

CITIZENSHIP OR VISA STATUS		BLACK	AMERICAN INDIAN	ASIAN	HISPANIC	NONE OF THE ABOVE	ROW TOTAL
BACHELOR							
	COUNT	17	1	37	8	1066	1129
U.S. CITIZEN	% OF ROW	1.5	0.1	3.3	0.7	94.4	96.4
	% OF COL	77.3	100.0	63.8	72.7	98.8	
U.S. PERMANENT RESIDENT VISA		1	0	13	3	11	28
		3.6	0.0	46.4	10.7	39.3	2.4
		4.5	0.0	22.4	27.3	1.0	
OTHER TYPE OF VISA		4	0	8	0	2	14
		28.6	0.0	57.1	0.0	14.3	1.2
		18.2	0.0	13.8	0.0	0.2	
COLUMN TOTAL		22	1	58	11	1079	1171
		1.9	0.1	5.0	0.9	92.1	100.0
MASTER							
	COUNT	1	0	6	3	114	124
U.S. CITIZEN	% OF ROW	0.8	0.0	4.8	2.4	91.9	82.1
	% OF COL	50.0	0.0	23.1	100.0	95.0	
U.S. PERMANENT RESIDENT VISA		0	0	7	0	3	10
		0.0	0.0	70.0	0.0	30.0	6.6
		0.0	0.0	26.9	0.0	2.5	
OTHER TYPE OF VISA		1	0	13	0	3	17
		5.9	0.0	76.5	0.0	17.6	11.3
		50.0	0.0	50.0	0.0	2.5	
COLUMN TOTAL		2	0	26	3	120	151
		1.3	0.0	17.2	2.0	79.5	100.0
PHD							
	COUNT	0	0	2	1	26	29
U.S. CITIZEN	% OF ROW	0.0	0.0	6.9	3.4	89.7	63.0
	% OF COL	0.0	0.0	13.3	100.0	89.7	
U.S. PERMANENT RESIDENT VISA		0	0	6	0	1	7
		0.0	0.0	85.7	0.0	14.3	15.2
		0.0	0.0	40.0	0.0	3.4	
OTHER TYPE OF VISA		1	0	7	0	2	10
		10.0	0.0	70.0	0.0	20.0	21.7
		100.0	0.0	46.7	0.0	6.9	
COLUMN TOTAL		1	0	15	1	29	46
		2.2	0.0	32.6	2.2	63.0	100.0

Table F-3

MINORITY CLASSIFICATION OF CHEMISTS AND CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED AND SEX

MINORITY CLASSIFICATION		BACHELOR MEN	BACHELOR WOMEN	BACHELOR ROW TOTAL	MASTER MEN	MASTER WOMEN	MASTER ROW TOTAL	PHD MEN	PHD WOMEN	PHD ROW TOTAL
CHEMISTRY										
BLACK	COUNT	29	12	41	5	2	7	8	1	9
	% OF ROW	70.7	29.3	2.0	71.4	28.6	2.4	88.9	11.1	2.2
	% OF COL	2.0	2.0		2.3	2.6		2.2	2.0	
AMERICAN INDIAN		3	3	6	2	1	3	0	0	0
		50.0	50.0	0.3	66.7	33.3	1.0	0.0	0.0	0.0
		0.2	0.5		0.9	1.3		0.0	0.0	
ASIAN		40	19	59	21	10	31	35	7	42
		67.8	32.2	2.8	67.7	32.3	10.5	83.3	16.7	10.3
		2.7	3.1		9.6	12.8		9.8	13.7	
HISPANIC		20	10	30	6	3	9	3	1	4
		66.7	33.3	1.4	66.7	33.3	3.0	75.0	25.0	1.0
		1.4	1.6		2.8	3.8		0.8	2.C	
NONE OF THE ABOVE		1369	568	1937	184	62	246	310	42	352
		70.7	29.3	93.4	74.8	25.2	83.1	88.1	11.9	86.5
		93.7	92.8		84.4	79.5		87.1	82.4	
COLUMN TOTAL		1461	612	2073	218	78	296	356	51	407
		70.5	29.5	100.0	73.6	26.4	100.0	87.5	12.5	100.0
CHEMICAL ENG										
BLACK	COUNT	15	7	22	2	0	2	1	0	1
	% OF ROW	68.2	31.8	1.9	100.0	0.0	1.3	100.0	0.0	2.2
	% OF COL	1.6	3.1		1.4	0.0		2.3	0.0	
AMERICAN INDIAN		0	1	1	0	0	0	0	0	0
		0.0	100.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
		0.0	0.4		0.0	0.0		0.0	0.0	
ASIAN		43	15	58	25	1	26	15	C	15
		74.1	25.9	5.0	96.2	3.8	17.2	100.0	0.0	32.6
		4.5	6.7		18.0	8.3		34.1	0.0	
HISPANIC		9	2	11	3	0	3	1	0	1
		81.8	18.2	0.9	100.0	0.0	2.0	100.0	0.C	2.2
		1.0	0.9		2.2	0.0		2.3	0.0	
NONE OF THE ABOVE		879	195	1078	109	11	120	27	2	29
		81.5	18.5	92.1	90.8	9.2	79.5	93.1	6.9	63.0
		92.9	88.8		78.4	91.7		61.4	100.0	
COLUMN TOTAL		946	224	1170	139	12	151	44	2	46
		80.9	19.1	100.0	92.1	7.9	100.0	95.7	4.3	100.0

CITIZENSHIP OR VISA STATUS OF CHEMISTS AND CHEMICAL ENGINEERS

BY HIGHEST DEGREE EARNED AND SEX

CITIZENSHIP OR VISA STATUS		BACHELOR MEN	BACHELOR WOMEN	BACHELOR ROW TOTAL	MASTER MEN	MASTER WOMEN	MASTER ROW TOTAL	PHD MEN	PHD WOMEN	PHD ROW TOTAL
CHEMISTRY										
U.S. CITIZEN	COUNT	1449	606	2055	200	70	270	325	45	370
	% OF ROW	70.5	29.5	97.8	74.1	25.9	89.7	87.8	12.2	88.7
	% OF COL	97.7	97.9		90.1	88.6		88.8	88.2	
U.S. PERMANENT RESIDENT VISA	COUNT	19	8	27	10	3	13	17	2	19
	% OF ROW	70.4	29.6	1.3	76.9	23.1	4.3	89.5	10.5	4.6
	% OF COL	1.3	1.3		4.5	3.8		4.6	3.9	
OTHER TYPE OF VISA	COUNT	15	5	20	12	6	18	24	4	28
	% OF ROW	75.0	25.0	1.0	66.7	33.3	6.0	85.7	14.3	6.7
	% OF COL	1.0	0.8		5.4	7.6		6.6	7.8	
COLUMN TOTAL		1483	619	2102	222	79	301	366	51	417
		70.6	29.4	100.0	73.8	26.2	100.0	87.8	12.2	100.0
CHEMICAL ENG										
U.S. CITIZEN	COUNT	922	219	1141	115	11	126	29	1	30
	% OF ROW	80.8	19.2	96.4	91.3	8.7	81.3	96.7	3.3	63.8
	% OF COL	96.3	96.9		81.0	84.6		64.4	50.0	
U.S. PERMANENT RESIDENT VISA	COUNT	22	6	28	10	0	10	7	0	7
	% OF ROW	78.6	21.4	2.4	100.0	0.0	6.5	100.0	0.0	14.9
	% OF COL	2.3	2.7		7.0	0.0		15.6	0.0	
OTHER TYPE OF VISA	COUNT	13	1	14	17	2	19	9	1	10
	% OF ROW	92.9	7.1	1.2	89.5	10.5	12.3	90.0	10.0	21.3
	% OF COL	1.4	0.4		12.0	15.4		20.0	50.0	
COLUMN TOTAL		957	226	1183	142	13	155	45	2	47
		80.9	19.1	100.0	91.6	8.4	100.0	95.7	4.3	100.0

Table G-1

BACHELOR'S DEGREE RECIPIENTS BY FIELD OF HIGHEST DEGREE AND PARTICIPATION IN COOPERATIVE EDUCATION PROGRAMS

FIELD OF HIGHEST DEGREE		COOPERATIVE EDUCATION YES	NO	ROW TOTAL
CHEMICAL ENG	COUNT	190	910	1100
	% OF ROW	17.3	82.7	35.0
	% OF COL	44.2	33.6	
CHEMISTRY		216	1666	1882
		11.5	88.5	59.9
		50.2	61.5	
BIOCHEMISTRY		23	119	142
		16.2	83.8	4.5
		5.3	4.4	
NON-CHEMICAL		1	15	16
		6.3	93.8	0.5
		0.2	0.6	
COLUMN TOTAL		430	2710	3140
		13.7	86.3	100.0

Table G-2

BACHELOR'S DEGREE RECIPIENTS BY EMPLOYER AND PARTICIPATION IN COOPERATIVE EDUCATION PROGRAMS

EMPLOYER CLASSIFICATION		COOPERATIVE EDUCATION YES	NO	ROW TOTAL
INDUSTRY	COUNT	191	1021	1212
	% OF ROW	15.8	84.2	61.8
	% OF COL	62.8	61.6	
ACADEMIC INST		59	322	381
		15.5	84.5	19.4
		19.4	19.4	
GOVERNMENT		14	57	71
		19.7	80.3	3.6
		4.6	3.4	
HOSP,LAB,NON-PROFIT		18	98	116
		15.5	84.5	5.9
		5.9	5.9	
OTHER		22	160	182
		12.1	87.9	9.3
		7.2	9.7	
COLUMN TOTAL		304	1658	1962
		15.5	84.5	100.0

Table G-3

BACHELOR'S DEGREE RECIPIENTS BY EMPLOYMENT STATUS AND PARTICIPATION IN COOPERATIVE EDUCATION PROGRAMS

EMPLOYMENT STATUS		COOPERATIVE EDUCATION YES	NO	ROW TOTAL
FULL-TIME IN CHEM.	COUNT	218	1134	1352
	% OF ROW	16.1	83.9	43.1
	% OF COL	50.7	41.8	
FULL-TIME NON-CHEM.		40	247	287
		13.9	86.1	9.1
		9.3	9.1	
POST-DOC OR ASST		89	496	585
		15.2	84.8	18.6
		20.7	18.3	
NOT EMPL-SEEKING		19	202	221
		8.6	91.4	7.0
		4.4	7.5	
NOT EMPL-NOT SEEKING		64	631	695
		9.2	90.8	22.1
		14.9	23.3	
COLUMN TOTAL		430	2710	3140
		13.7	86.3	100.0

Table G-4

BACHELOR'S DEGREE RECIPIENTS BY GEOGRAPHIC REGION AND PARTICIPATION IN COOPERATIVE EDUCATION PROGRAMS

GEOGRAPHIC REGION		COOPERATIVE EDUCATION YES	NO	ROW TOTAL
PACIFIC	COUNT	39	145	184
	% OF ROW	21.2	78.8	9.3
	% OF COL	12.7	8.7	
MOUNTAIN		9	71	80
		11.3	88.8	4.1
		2.9	4.3	
WEST NORTH CENTR		34	109	143
		23.8	76.2	7.3
		11.0	6.6	
WEST SOUTH CENTR		24	175	199
		12.1	87.9	10.1
		7.8	10.5	
EAST NORTH CENTR		73	403	476
		15.3	84.7	24.1
		23.7	24.2	
EAST SOUTH CENTR		13	67	80
		16.3	83.8	4.1
		4.2	4.0	
MIDDLE ATLANTIC		55	375	430
		12.8	87.2	21.8
		17.9	22.5	
SOUTH ATLANTIC		44	234	278
		15.8	84.2	14.1
		14.3	14.1	
NEW ENGLAND		17	85	102
		16.7	83.3	5.2
		5.5	5.1	
COLUMN TOTAL		308	1664	1972
		15.6	84.4	100.0

Table G-5

BACHELOR'S DEGREE RECIPIENTS BY ADVANCED STUDY PLANS AND PARTICIPATION IN COOPERATIVE EDUCATION PROGRAMS

ADVANCED STUDY PLANS FALL 1979		COOPERATIVE EDUCATION YES	NO	ROW TOTAL
FULL-TIME	COUNT	159	1137	1296
	% OF ROW	12.3	87.7	41.4
	% OF COL	37.1	42.0	
PART-TIME		95	463	558
		17.0	83.0	17.8
		22.2	17.1	
NO PLANS		174	1104	1278
		13.6	86.4	40.8
		40.7	40.8	
COLUMN TOTAL		428	2704	3132
		13.7	86.3	100.0

Table G-6

BACHELOR'S DEGREE RECIPIENTS BY AGE AND PARTICIPATION IN COOPERATIVE EDUCATION PROGRAMS

AGE		COOPERATIVE EDUCATION: YES	NO	ROW TOTAL
19	COUNT	0	6	6
	% OF ROW	0.0	100.0	0.2
	% OF COL	0.0	0.2	
20		7	61	68
		10.3	89.7	2.2
		1.6	2.3	
21		111	881	992
		11.2	88.8	31.8
		26.0	32.8	
22		167	1097	1264
		13.2	86.8	40.6
		39.1	40.8	
23		88	311	399
		22.1	77.9	12.8
		20.6	11.6	
24		24	97	121
		19.8	80.2	3.9
		5.6	3.6	
25		11	55	66
		16.7	83.3	2.1
		2.6	2.0	
26		3	44	47
		6.4	93.6	1.5
		0.7	1.6	
27		5	26	31
		16.1	83.9	1.0
		1.2	1.0	
28		4	31	35
		11.4	88.6	1.1
		0.9	1.2	
29		1	19	20
		5.0	95.0	0.6
		0.2	0.7	
30-34		3	38	41
		7.3	92.7	1.3
		0.7	1.4	
35-39		2	15	17
		11.8	88.2	0.5
		0.5	0.6	
40-49		0	7	7
		0.0	100.0	0.2
		0.0	0.3	
50-64		1	2	3
		33.3	66.7	0.1
		0.2	0.1	
	COLUMN TOTAL	427	2690	3117
		13.7	86.3	100.0

Table G-7

BACHELOR'S DEGREE RECIPIENTS BY SEX AND PARTICIPATION IN COOPERATIVE EDUCATION PROGRAMS

SEX		COOPERATIVE EDUCATION YES	NO	ROW TOTAL
MEN	COUNT	301	2004	2305
	% OF ROW	13.1	86.9	73.6
	% OF COL	70.0	74.2	
WOMEN		129	697	826
		15.6	84.4	26.4
		30.0	25.8	
COLUMN TOTAL		430	2701	3131
		13.7	86.3	100.0

Table G-8

BACHELOR'S DEGREE RECIPIENTS BY TYPE OF BACHELOR'S DEGREE AND PARTICIPATION IN COOPERATIVE EDUCATION PROGRAMS

HIGHEST DEGREE EARNED		COOPERATIVE EDUCATION YES	NO	ROW TOTAL
BA	COUNT	78	683	761
	% OF ROW	10.2	89.8	25.3
	% OF COL	18.4	24.4	
BS		345	2014	2359
		14.6	85.4	74.7
		81.6	75.6	
COLUMN TOTAL		423	2697	3120
		13.7	86.3	100.0

AMERICAN CHEMICAL SOCIETY

Survey of Starting Salaries and Employment Status of 1979 Chemistry and Chemical Engineering Graduates

PLEASE DO NOT WRITE IN THIS SPACE

A. Highest degree earned (check one):
(1)___Ph.D. → *Go to question B.*
(2)___M.S. → *Go to question B.*
(3)___B.A. → Bachelors degree recipients only:
(4)___B.S. → Bachelors degree recipients only:
Approximate overall Grade Point Average (A=4.00,B=3.00,C=2.00): _____
Were you employed as an intern or cooperative education student as a formal part of your college training? (1)___yes (2)___no

A. (1) ___
(2) ___ ___ ___
(5) ___

B. When did you receive this degree? _____ (month) _____ (year)

B. (6) ___ ___ ___ ___

C. Field of highest degree (check one):
(01)___Chemical engineering
(02)___Chemistry, general
(03)___Biochemistry
(04)___Agricultural/food chemistry
(05)___Analytical chemistry
(06)___Inorganic chemistry
(07)___Organic chemistry
(08)___Pharmaceutical/medicinal/clinical chemistry
(09)___Physical/theoretical chemistry
(10)___Polymer/macromolecular chemistry
(14)___Chemistry, other (specify) _____
(15)___Non-chemical (specify) _____

C. (10) ___ ___

D. Do you plan further advanced studies in fall 1979? (check one)
(1)___Yes, full-time
(2)___Yes, part-time
(3)___No → *Go to question F.*

D. (12) ___

E. Field of further studies (check one):
(01)___Chemistry
(02)___Other physical science, or math.
(03)___Chemical engineering
(04)___Other engineering
(05)___Biochemistry
(06)___Other life science
(07)___Medicine
(08)___Dentistry
(09)___Pharmacy, pharmacology
(10)___Business, management
(11)___Law
(12)___Social science, or humanities
(13)___Other (specify) _____

E. (13) ___ ___

F. Month and year of birth: _____ (month) _____ (year)

F. (15) ___ ___ ___ ___

G. Sex: (1)_____Male (2)_____Female

G. (19) ___

H. Citizenship or visa status (check one):
(1)___U.S. citizen
(2)___U.S. permanent resident visa
(3)___Other type of visa (specify) _____

H. (20) ___

I. Racial or ethnic group:
(1)___Black (not of Hispanic origin)
(2)___American Indian or Alaskan Native
(3)___Asian or Pacific Islander (of Chinese, Japanese, Korean, Filipino, or Subcontinental Indian origin)
(4)___Hispanic (of Mexican, Puerto Rican, Cuban, or Spanish origin)
(5)___None of the above

I. (21) ___

J. Post-graduation employment status (check one):

Accepted or continued full-time employment (excluding summer employment):
(1)___in a field of chemistry or chemical engineering
(2)___in a field other than chemistry or chemical engineering
(3)___Accepted a graduate assistantship or a postdoctoral or other fellowship

J. (22) ___

Not employed (or employed part-time or for the summer):
(4)___and seeking full-time employment → *Stop here.*
(5)___and not seeking full-time employment → *Return questionnaire in envelope provided.*

K. When did you begin working for your current employer? _____ (month) _____ (year)

K. (23) ___ ___ ___ ___

L. Professional or technical work experience prior to graduation (check one):
(1)___less than 12 months (or none)
(2)___12 to 36 months
(3)___more than 36 months

L. (27) ___

M. How many firm offers of employment did you receive in a field of chemistry or chemical engineering? Specify number _____

M. (28) ___ ___

N. Employer classification (check the one category which best describes your employer):

Private industry or business:
(01)___Manufacturing
(02)___Non-manufacturing (e.g. mining, utilities, construction, etc.)
(03)___College or university
(04)___High school or other school
(05)___Federal government (civilians only)
(06)___State or local government
(08)___Hospital or independent laboratory
(09)___Other non-profit org. or research institute
(10)___Other (specify) _____

N. (30) ___ ___

O. Annual salary: $_____per year

O. (32) ___ ___ ___ ___ ___

P. Geographic location of employment: State _____

P. (37) ___ ___

Please return within 10 days to the American Chemical Society
1155 Sixteenth St. N.W., Washington, D.C. 20036
Thank you

Q. (39) ___

R. (68) ___ ___ ___ ___ ___