DOCUMENT RESUME

ED 025 262 JC 680 501

Prospects of Engineering and Technology Graduates, 1968.
Engineering Joint Council, New York, N.Y. Engineering Manpower Commission
Pub Date Sep 68
Note-43p.
Available from-Engineering Manpower Commission, 345 East 47th Street, New York, New York 10017 ($1 50)
EDRS Price MF-$0.25 HC Not Available from EDRS.
Descriptors-*Engineering Technicians, *Engineers, Followup Studies, Industrial Education, *Job Placement, *Junior Colleges, *Manpower Needs, Technical Education

This 1968 survey shows a reduction in the number of engineering graduates going on to advanced study, a trend undoubtedly due to the elimination of graduate student military deferments in February 1968. The lack of advanced degrees will show up in coming years. In general, the rate of immediate employment has gone up, as has the number going into military service. The demand for new graduates remains strong, 96% of them having definite job plans and most of the others considering offers. Of graduates from the non-accredited schools, even fewer are entering advanced study programs; most go directly into employment, continuing a trend of recent years. Tables show how many are employed (or entering graduate study) in the various engineering specialties. Information is also given for the graduates of special institutions (industry schools and military and maritime academies) and for technology graduates from 2-year associate-degree programs and 4-year bachelor programs. The author regrets that many schools do not compile these data on their graduates, for such information as published in this Engineering Manpower Commission survey is useful to the engineering community. (HH)

ED025262

JC 680 501

PROSPECTS OF ENGINEERING AND TECHNOLOGY GRADUATES 1968

ENGINEERING MANPOWER COMMISSION
of Engineers Joint Council
345 East 47th Street
New York, New York 10017

September, 1968

$1.50

THE ENGINEERING MANPOWER COMMISSION OF ENGINEERS JOINT COUNCIL

The Engineering Manpower Commission was organized in 1951 as part of Engineers Joint Council. Its Commissioners are appointed by Engineers Joint Council and serve as a focus for national technological manpower problems.

The Commission's program is carried out through the collection, analysis, and publication of significant data on engineering manpower, as well as the development of programs and policies designed to acquaint the public with the importance of engineering to the national welfare.

The Engineering Manpower Commission is charged with the following responsibility:

> "To engage in studies and analyses of the supply, demand, and utilization of engineering and technical manpower; to make recommendations, conduct programs, and develop reports concerning these aspects of engineering and technical manpower; and to carry on such other programs in the field of manpower as may be authorized by the Board of Directors of EJC."

EMC OFFICERS AND STAFF

Chairman . . . . . Donald E. Irwin

Vice Chairman . . . . . William Hazell

Chairman of Surveys Committee . . . . . Theodore J. Carron

Executive Secretary . . . . . John D. Alden

ACKNOWLEDGMENTS

This study was prepared under the general direction of John Alden. Carol Iceland was responsible for conducting the survey and typing this report. Estelle McNamara and Beatrice Cochrane recorded and tallied the results.

C O N T E N T S

INTRODUCTION

Since 1958 the Engineering Manpower Commission has conducted surveys of the June graduating class to evaluate trends in the placement and occupation of new engineering graduates. This is the fifth in the current series of annual surveys which started in 1964.

Deans and placement officers of 208 engineering schools and 52 other technological institutions replied to this year's survey. The information reported has been analyzed according to various categories of institution, curriculum, and post-graduate activity.

This year more statistics have been added on graduates in engineering and industrial technology at the bachelor's and associate degree levels. The growing interest in technology programs makes a comparison of these students with engineering graduates particularly pertinent.

The section on starting salaries is included because of its relevance to users of this report. Similarly, a section on enrollment and degree trends for the past and future is included to add to the perspective of the report.

In computing statistics on the placement of the 1968 graduating class, those graduates about whom no information was known have been excluded from the figures and percentages. They are covered separately in the analysis of non-respondents. Also omitted from the general tables are the returns from 4 armed forces schools, 2 maritime academies, and 3 industry-sponsored institutions, since none of these can be considered typical of the civilian engineering and technical schools. Returns from these special schools are reported by separate tables or footnotes as appropriate.

In order to categorize properly a special group of students who have been employed but are entering full-time graduate study under the sponsorship of their employer, such individuals, where not reported separately, have been counted in both the employed and the graduate study categories, as they obviously qualify for both. However, this group has been counted only once in the totals. Care should be used when taking figures from the tables to avoid "double counting" of this category.

This Engineering Manpower Commission survey of the annual engineering and technology graduating class is proving increasingly useful as a means of identifying trends in educational and occupational patterns as well as providing an indication of the placement prospects of new graduates.

SUMMARY AND CONCLUSIONS

The highlight of this year's survey is the sharp reduction in the percentage of new engineering graduates going directly on to advanced degree studies. This figure had been increasing steadily until 1966, when it appeared to be settling down at about 25%. A slight dip to 24.9% in 1967 was too small to be significant, but this year the percentage plummeted to 17.6%. This reversal of the long-range trend toward more advanced degrees, which has been generally recognized as a reflection of the increasing complexity of the engineering profession, is undoubtedly due to the elimination of graduate student deferments last February, on recommendation of the National Security Council. The long-range implications of this development could be serious indeed. The effect on this Fall's graduate school enrollments will not be apparent for several months. More significant will be the abnormally low proportion of advanced degrees in the age group represented by this year's graduates, as it may be years before the situation returns to normality again.

The reduction in graduate school plans was counterbalanced by an increase of 4 percentage points in the numbers accepting employment and almost 2 points in those entering military service. Almost twice as many graduates as last year were still considering job offers, although the proportion in this category was only 3.4%.

This survey indicates that the demand for new engineering graduates remains strong, as indicated by the small number of students reported as having no employment offers or other plans. The proportion of graduates having definite commitments remained high -- 96% -- with most of the other

4% still considering offers of employment at the time the survey was taken.

The sustained favorable employment climate bears out the findings of EMC's ten-year demand survey[1] and is in line with most indices of long-range manpower demand despite a drop in advertising and recruiting activity during 1968 and reported decreases in job openings for engineers in some areas.

In addition to almost 11% of the new civilian engineering graduates, military service also claimed 587 graduates of armed forces schools who received engineering degrees. The civilian graduates entering the armed services were about equally divided between ROTC and other military programs. The military percentage is higher than reported in the last four years, and almost back to what it was in 1961.

The percentage of graduates entering full-time advanced study sponsored by their employers has dropped again. This may not be particularly meaningful, however, because many schools are unable to report this information accurately.

In comparison with ECPD-accredited schools, the non-accredited institutions, with only about 9% of the engineering graduates reported, differed mainly in having less than half the percentage entering graduate studies and a correspondingly greater percentage accepting employment. This situation has existed consistently in recent years.

The various engineering curricula differed as usual, in the categories of those employed, which ranged from a low of 49% to a high of 77%, and those entering graduate study, which varied between 11% and 37%. De-

1/ Demand for Engineers and Technicians-1966. Engineering Manpower Commission of Engineers Joint Council, 345 East 47th Street, New York, New York 10017 - $4.00 prepaid.

tailed results will be found elsewhere in this report.

The results for technology graduates are reported separately by two-year associate degree programs and four-year bachelor of technology programs, and are further broken down by curriculum. Only two four-year programs are currently accredited by ECPD, although a number are given by schools having other curricula on the ECPD lists. In general, technology graduates appear to be as much in demand as engineers. It is also of interest that a substantial percentage of both two and four-year technology graduates are continuing their education on a full-time basis.

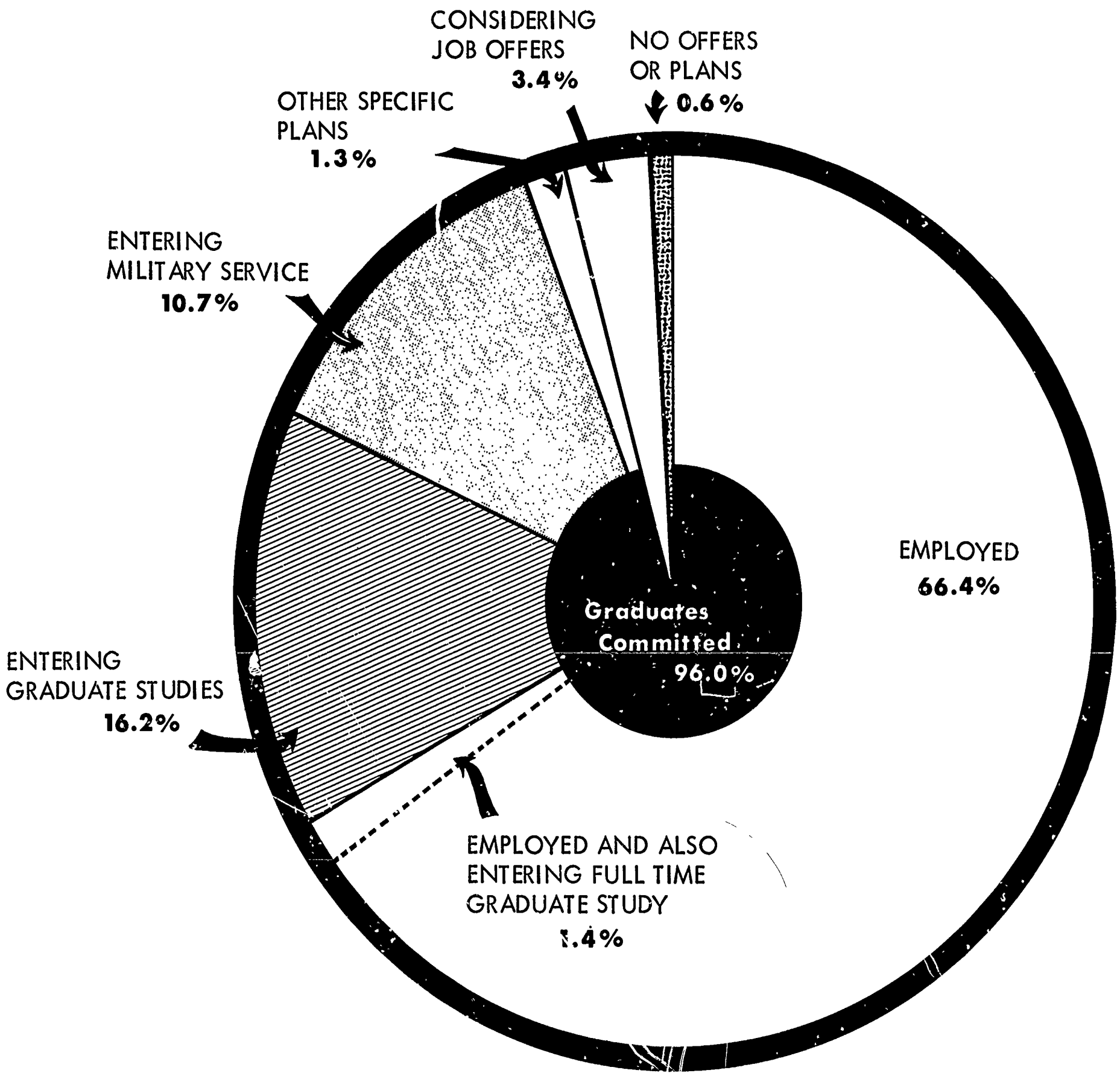
Despite the excellent response to this survey, no placement information is known for many of this year's engineering graduates. This situation has existed in past years and shows few signs of improving. Detailed and complete statistics from many schools are proof that placement information can be obtained, and because of EMC's belief that such data are useful to the engineering community, it is hoped that this report will stimulate more schools to compile them.

It may be of interest to note that at least one school which reports complete information every year requires the completion and filing of a personal record form as a prerequisite for graduation. Their form is especially designed to obtain the data for the EMC survey as well as other information desired by the school.1/

1/ For further information write to Professor J. A. Marks, Engineering Placement Director, College of Engineering, The University of Wisconsin, Madison, Wisconsin 53706.

Placement Status of

Engineering Graduates - 1968



ECPD ACCREDITED SCHOOLS COMPARED WITH NON-ACCREDITED SCHOOLS

Five categories constitute the "graduates committed" group, i.e., those who have specific commitments for their occupation after graduation: employed, employed and entering graduate studies, not employed but going on to full-time graduate studies, entering military service (ROTC and other), and other specific plans. This grouping is used throughout the report as an indicator of the extent to which graduates have committed themselves to a definite plan. Note that the survey

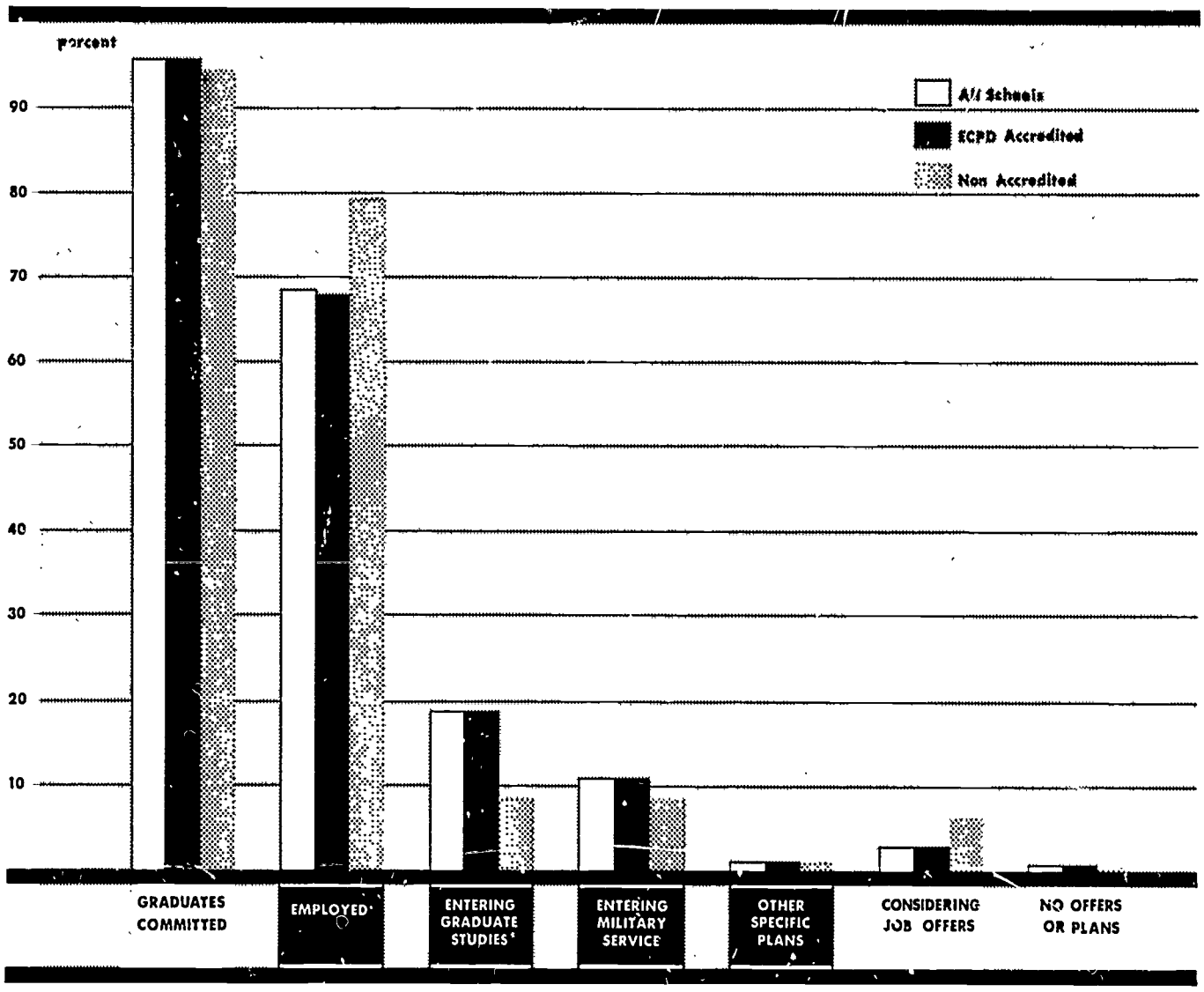
Placement Status of Engineering Graduates
ECPD Accredited and Non-Accredited Schools -- 1968

PLACEMENT STATUS	ALL SCHOOLS		ECPD ACCREDITED SCHOOLS		NON-ACCREDITED SCHOOLS	
	No.	%	No.	%	No.	%
EMPLOYED	15612	66.4	13993	65.4	1619	76.4
EMPLOYED AND ENTERING FULL-TIME GRADUATE STUDY	322	1.4	292	1.4	30	1.4
ENTERING GRADUATE STUDY	3794	16.2	3648	17.1	14	6.9
ENTERING MILITARY (ROTC)	1251	5.3	1212	5.7	39	1.9
OTHER MILITARY SERVICE	1260	5.4	1120	5.2	140	6.6
OTHER SPECIFIC PLANS	303	1.3	284	1.3	19	0.9
GRADUATES COMMITTED (Total of above)	22542	96.0	20549	96.2	1995	94.0
CONSIDERING JOB OFFERS	791	3.4	670	3.1	121	5.7
NO OFFERS OR PLANS	142	0.6	136	0.6	6	0.3
TOTAL WITH KNOWN STATUS	23475	100.0	21355	100.0	2120	100.0
NO INFORMATION	3340	----	3009	----	331	----
TOTAL REPORTED	26815	----	24364	----	2451	----

covers only graduates receiving baccalaureate or first professional degrees, not those receiving advanced degrees.

This year the ECPD-accredited and non-accredited groups show practically the same percentages of graduates committed, but there are significant differences in the categories making up the totals. Most striking are the percent employed (67% for ECPD schools and 78% for non-accredited schools), and the percent entering graduate studies (18% for ECPD schools and 8% for the non-accredited group). The difference in the military service category (11% versus 8%) is in line with previous reports. Differences in other categories appear to be insignificant.

Placement Status of Engineering Graduates
ECPD Accredited and Non-Accredited Schools -- 1968



* Those employed and entering graduate studies sponsored by employer are included in both categories.

DIFFERENCES AMONG ENGINEERING CURRICULA

In comparing individual curricula, care must be taken to note the actual numbers involved. Although percentages smaller than 1% have been omitted from the following table for individual curricula, all figures based on small numbers should be interpreted with caution.

All curricula show high percentages of graduates committed to specific plans, although slightly lower than last year. There are significant variations in the employed and graduate study activity. Those more employment-oriented than the average are the petroleum, electrical/electronic, mining, general, mechanical, and chemical engineers, with

Placement Status by Engineering Curricula - 1968

PLACEMENT STATUS		ENGINEERING CURRICULUM							
		AERO.	AGR.	ARCH.	CERAM.	CHEM.	CIVIL	ELEC. & ELEX.	ENG. GEN.
EMPLOYED**	No.	742	146	119	89	1556	2335	4727	559
	%	61%	59%	65%	56%	69%	66%	72%	70%
ENTERING FULL-TIME GRADUATE STUDY**	No.	184	49	21	40	463	625	1060	143
	%	16%	20%	11%	25%	20%	18%	16%	18%
ENTERING MILITARY SERVICE	No.	116	39	39	19	176	430	615	69
	%	14%	16%	21%	12%	8%	12%	9%	9%
OTHER SPECIFIC PLANS	No.	21	7	0	1	18	54	49	20
	%	2%	3%	0	*	*	2%	*	2%
GRADUATES COMMITTED (Total of above)**	No.	1110	241	178	147	2187	3400	6287	779
	%	96%	97%	97%	92%	97%	97%	96%	97%
CONSIDERING JOB OFFERS	No.	43	7	6	10	57	98	236	15
	%	4%	3%	3%	6%	2%	3%	4%	2%
NO OFFERS OR PLANS	No.	3	0	0	2	15	30	36	8
	%	*	0	0	1%	*	*	*	*
TOTAL WITH STATUS KNOWN **	No.	1153	247	184	159	2263	3541	6581	802
	%	100%	100%	100%	100%	100%	100%	100%	100%
NO INFORMATION	No.	193	42	67	6	183	492	1019	78
TOTAL REPORTED**	No.	1346	289	251	165	2446	4033	7600	880

* Less than 1%

** Those employed and entering graduate studies sponsored by employer are included in both categories. Totals are therefore lers than the sum of separate categories.

NOTE: Percentages are based on total with status known and may not add to 100 because of rounding.

the engineering sciences the lowest. Graduate study is most popular with engineering science, ceramic, and metallurgical engineering graduates. There is no obvious explanation for the differences in the military service category, which vary from a high of 21% in architectural engineering to a low of 4% in petroleum.

The naval architecture and nuclear groups were so small that they have not been listed individually in this report, but will be found in the Appendix.

The "other specific plans" category includes several written in as Peace Corps but otherwise cannot be specifically identified. Most of the "no offers or plans" group probably consists of foreign students whose visas are expiring, as this reason was noted on several returns.

Placement Status by Engineering Curricula - 1968

ENGINEERING CURRICULUM								PLACEMENT STATUS	
SCI. PHYS./MECH.	INDUS.	MECH.	METAL.	MIN.	PETRO.	ALL OTHERS	TOTAL		
364 49%	1052 61%	3421 70%	308 66%	151 71%	107 77%	258 52%	15934 68%	No. %	EMPLOYED**
276 37%	278 17%	751 16%	107 23%	27 13%	18 13%	84 17%	4116 18%	No. %	ENTERING FULL-TIME GRADUATE STUDY**
68 9%	268 16%	461 10%	32 7%	25 12%	5 4%	99 20%	2511 11%	No. %	ENTERING MILITARY SERVICE
9 1%	24 2%	63 1%	5 1%	0 0	1 *	31 6%	303 1%	No. %	OTHER SPECIFIC PLANS
707 95%	1598 98%	4611 96%	450 97%	203 95%	131 95%	468 94%	22543 96%	No. %	GRADUATES COMMITTED (Total of above)**
33 4%	32 2%	191 4%	13 3%	11 5%	7 5%	32 6%	791 3%	No. %	CONSIDERING JOB OFFERS
5 *	6 *	34 *	2 *	0 0	1 *	0 0	142 *	No. %	NO OFFERS OR PLANS
745 100%	1636 100%	4846 100%	465 100%	214 100%	139 100%	500 100%	23475 100%	No. %	TOTAL WITH STATUS KNOWN **
156	223	699	61	9	4	108	3340	No.	NO INFORMATION
901	1859	5545	526	223	143	608	26815	No.	TOTAL REPORTED**

* Less than 1%

** Those employed and entering graduate studies sponsored by employer are included in both categories. Totals are therefore less than the sum of separate categories.

NOTE: Percentages are based on total with status known and may not add to 100 because of rounding.

COMPARISON WITH PREVIOUS SURVEYS

After annual surveys from 1958 through 1961, surveys were suspended for two years because it appeared that the placement situation was unchanged. In 1964, the survey was re-instituted because of the obviously reduced hiring activity for experienced engineers.

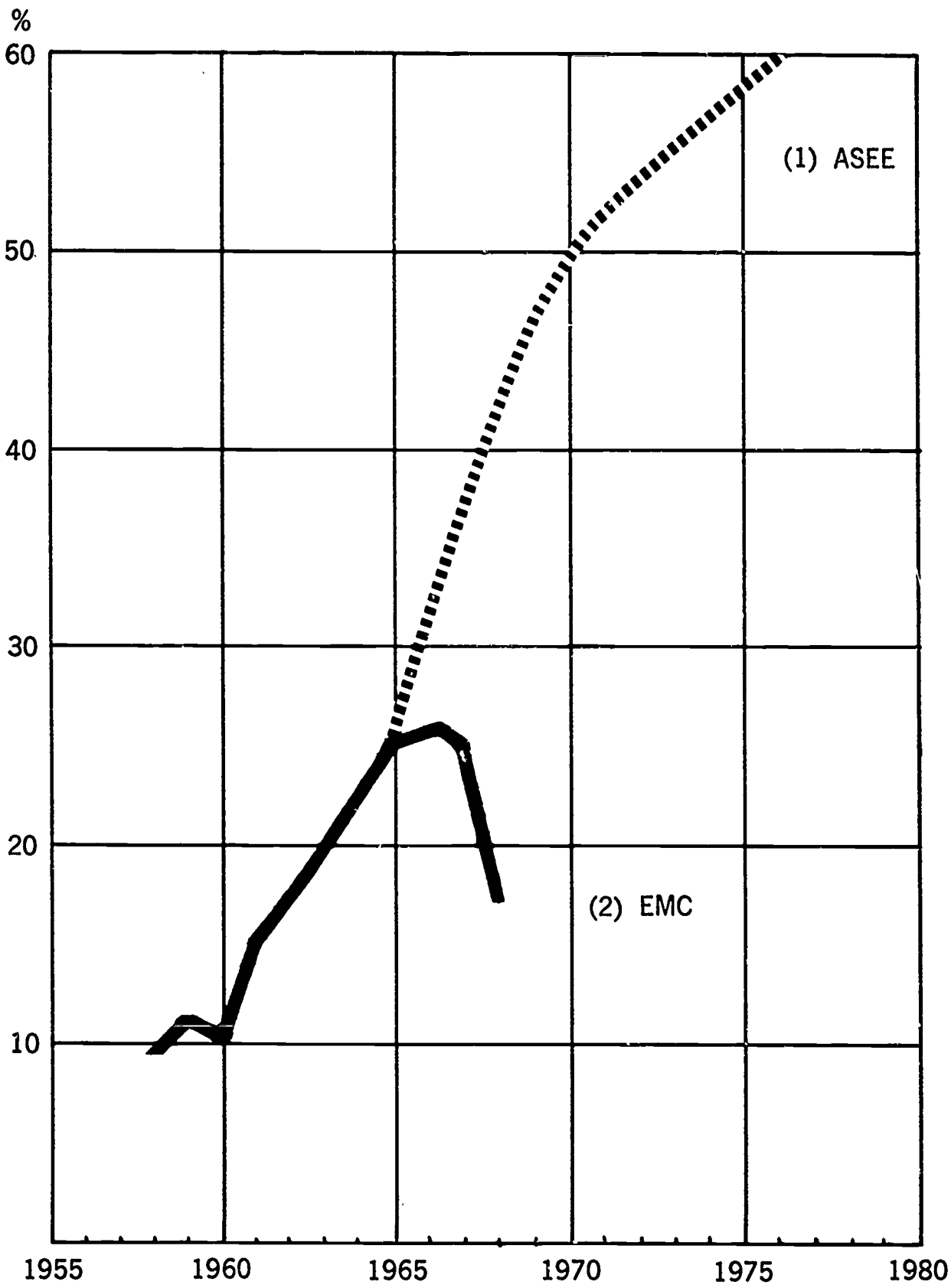
The number entering full-time graduate studies has shown the most significant trend over the years, rising steadily to a peak of 25.5% in 1966. Actually, the percentage had been holding quite steady at about 25% for the last three years. The dramatic drop this year is undoubtedly due to the termination of graduate student deferments starting in Fall 1968. Conversely, the percentage employed or considering job offers has reached a new high of 71.1%. Military service is also nearly equal to its 1961 peak, which is not surprising in view of the Vietnam buildup.

Placement Status of Engineering Graduates 1968 Compared with Previous Years

PLACEMENT STATUS	1961 Survey		1965 Survey		1966 Survey		1967 Survey		1968 Survey	
	No.	%	No.	%	No.	%	No.	%	No.	%
EMPLOYED*	10625	65.0%	11496	59.7%	11439	53.9%	14106	63.8%	15934	67.7%
ENTERING GRADUATE STUDIES*	2331	14.3%	4936	24.8%	5432	25.5%	5485	24.9%	4116	17.5%
ENTERING MILITARY SERVICE	1784	10.9%	1675	8.5%	1580	7.4%	1966	9.0%	2511	10.7%
OTHER SPECIFIC PLANS	265	1.6%	260	1.3%	268	1.3%	325	1.5%	303	1.3%
GRADUATES COMMITTED (Total of above)	15005	91.8%	17305	87.2%	18097	85.3%	21555	97.7%	22542	96.0%
CONSIDERING JOB OFFERS	841	5.1%	2309	11.7%	2994	14.1%	463	2.1%	791	3.4%
NO OFFERS OR PLANS	498	3.1%	217	1.1%	126	0.6%	51	0.2%	142	0.6%
TOTALS	16344	100.0%	19831	100.0%	21226	100.0%	22069	100.0%	23475	100.0%

*For 1965 and later years, those employed and entering full-time graduate studies sponsored by employer are included in both categories. Totals for these years are therefore less than the sum of individual categories.

NEW ENGINEERING GRADUATES AT BACHELOR'S LEVEL CONTINUING ON DIRECTLY TOWARD ADVANCED DEGREES



(1) AMERICAN SOCIETY FOR ENGINEERING EDUCATION ESTIMATES IN GOALS OF ENGINEERING EDUCATION REPORT.

(2) ENGINEERING MANPOWER COMMISSION, SURVEYS OF ENGINEERING GRADUATE PLACEMENT.

SPECIAL INSTITUTIONS

As in previous years, several institutions responded to this survey although their graduates do not follow normal placement patterns. This group includes armed forces schools, maritime academies, and schools operated by industry primarily for their own employees. Returns from these schools are reported separately below, as a matter of general interest.

Industry Schools

One of the three responding schools reported no bachelor's degrees. The others awarded 499 bachelor's degrees as follows:

CURRICULUM	DEGREES AWARDED
Electrical-electronic	70
Industrial	126
Mechanical	271
Other	32
TOTAL	499

All graduates were employed while in the program.

Military Service

Four institutions reported graduates in the following curricula and also indicated the numbers going into graduate study. All but three graduates were continuing in active military service.

CURRICULUM	DEGREES AWARDED	ENTERING GRADUATE STUDIES
Aerospace	46	24
Chemical	9	9
Civil	34	34
Electrical-electronic	103	25
Engineering, general	187	0
Engineering Science	102	102
Mechanical	19	9
All Other Engineering	90	90
TOTAL	590	293

Maritime Academies

Two schools in this category reported degrees awarded and placement status of graduates, all in the marine curriculum, as follows:

PLACEMENT STATUS	NUMBER
Entering employment	141
Military service	8
TOTAL	149

ENGINEERING TECHNOLOGY GRADUATES, ASSOCIATE DEGREE LEVEL

The group surveyed for this part of the report included all institutions with ECPD-accredited engineering technology curricula, 37 of which returned usable information.1/ Data were also received from 22 other institutions, mostly engineering schools which also grant associate degrees. Because of the relatively small size of the entire group, statistics have not been separated by accredited or non-accredited status. Differences in methodology make a comparison with last year's survey meaningless. However, data are presented separately for industrial technology graduates reported by the schools surveyed.

The most noteworthy finding is the high percentage of two-year graduates -- almost 30% -- continuing in full-time study. The percentage ranged from a high of 46% in aerospace to a low of 18% in drafting.

Overall, 61% were either employed or still considering job offers. Less than 1% had no offers or other specific plans. The percentage employed was highest for graduates of the drafting curriculum (78%) and lowest for aerospace (40%), inversely proportional to the situation with regard to further study.

Only 7% of the graduates were going into military service, a lower percentage than for engineering graduates. This is undoubtedly a result of the "oldest first" order of call by Selective Service plus the fact that officer programs, which attract many bachelor's degree graduates, would not be as readily available to men with a two-year degree.

1/All Pennsylvania State University campuses counted as a single institution.

It is disappointing that the proportion of graduates about whom no information was reported is higher this year than last, although it is still noticeably lower than for the engineering graduates.

Placement Status of Technology Graduates - 1968
Associate Degree Programs

PLACEMENT STATUS		AERO.	CHEM.	CIVIL	DRAFTING	ELEC.	IND. ENG.	MECH.	OTHER ENG.TECH.	ALL ENG. TECH.	IND. TECH.
EMPLOYED	No.	72	75	396	314	1553	67	460	168	3105	68
	%	37%	56%	50%	73%	61%	55%	49%	40%	55%	35%
FULL-TIME STUDY	No.	90	42	259	76	602	30	341	194	1634	85
	%	46%	31%	33%	18%	24%	24%	36%	46%	29%	43%
MILITARY SERVICE	No.	26	5	84	17	152	16	82	27	409	7
	%	13%	4%	10%	4%	6%	13%	9%	6%	7%	4%
OTHER SPECIFIC PLANS	No.	1	0	4	0	46	2	13	7	73	0
	%	*	0	*	0	2%	2%	1%	2%	1%	0
GRADUATES COMMITTED (Total of above)	No.	189	122	743	407	2353	115	896	396	5221	160
	%	97%	90%	94%	95%	92%	93%	93%	93%	93%	82%
CONSIDERING JOB OFFERS	No.	6	3	39	20	194	8	61	17	348	33
	%	3%	2%	5%	5%	8%	7%	6%	4%	6%	17%
NO OFFERS OR PLANS	No.	0	10	10	2	11	0	3	12	48	3
	%	0	7%	1%	*	*	0	*	3%	*	2%
TOTAL WITH STATUS KNOWN	No.	195	135	792	429	2558	123	960	425	5617	196
	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
NO INFORMATION	No.	6	20	93	34	158	37	144	60	552	47
TOTAL REPORTED	No.	201	155	885	463	2716	160	1104	485	6169	243

* less than 1%

NOTE: Percentages may not add to 100 because of rounding.

BACHELOR OF TECHNOLOGY GRADUATES

Information on this group was reported from 29 institutions, including many with ECPD-accredited engineering or engineering technology programs. Since only two baccalaureate curricula in engineering technology are currently on the ECPD list, accreditation status does not provide a useful basis for comparison. Therefore the major comparison is between engineering technology and industrial technology graduates. Of the engineering technology curricula, electrical/electronics was by far the largest, and results from this group are reported separately.

In general, all bachelor of technology groups are strongly oriented toward employment, with only a small percentage of graduates continuing in full-time study. The proportions entering military service are similar to engineering graduates, except that the industrial technology group is noticeably higher than the engineering technology men.

As was noted in last year's report, the bachelor of technology curriculum is of considerable interest because its graduates are just beginning to establish a distinctive place for themselves in the technical employment spectrum. This survey indicates that they share certain characteristics of engineering graduates, but resemble technicians in others. The number of graduates is still too small to permit the reliable identification of trends.

Bachelor of Technology Graduates - 1968
Placement Status

PLACEMENT STATUS	BACHELOR OF ENGINEERING TECHNOLOGY						BACHELOR OF INDUSTRIAL TECHNOLOGY	
	ALL FIELDS		ELECTRICAL		OTHER			
	No.	%	No.	%	No.	%	No.	%
EMPLOYED	452	77%	182	79%	270	76%	196	71%
FULL-TIME STUDY	26	4%	6	3%	20	6%	6	2%
MILITARY SERVICE	52	9%	15	7%	37	10%	57	21%
OTHER SPECIFIC PLANS	14	2%	5	2%	9	3%	5	2%
GRADUATES COMMITTED (Total of above)	544	92%	208	90%	336	94%	264	96%
CONSIDERING JOB OFFERS	37	6%	22	10%	15	4%	9	3%
NO OFFERS OR PLANS	6	1%		0	6	2%	2	*
TOTAL WITH STATUS KNOWN	587	100%	230	100%	357	100%	275	100%
NO INFORMATION	46	--	12	--	34	--	15	--
TOTAL REPORTED	633	--	242	--	391	--	290	--

* Less than 1%

NOTE: Percentages may not add to 100 because of rounding.

COMPARISON BETWEEN TECHNOLOGY AND ENGINEERING GRADUATES

Significant differences exist between engineering graduates and those with degrees in technology. While the bachelor of technology group is still a relatively small one, its members are strongly oriented toward employment, with four out of five either working or still considering job offers at the time the survey was conducted. Only four percent of the technology bachelors were going on to graduate school in contrast to 18% of the engineers. This group is also slightly more inclined toward entering military service.

The associate degree graduates in technology present an entirely different pattern. The employed or considering job offers group, 62% of the total, is the predominant category, but 30% indicate that they are planning to stay in school, presumably to work toward a bachelor's degree. Unlike the bachelor's graduates, the associate degree men can stay in school without losing their draft deferred status. Therefore it is not surprising that only seven percent of the graduates are going directly into military service.

These comparisons reveal that we are dealing with three quite distinctive groups in the engineering, four-year technology, and two-year technician programs. Despite the relationship between the three types of curricula, it is evident that they have different career objectives and will be affected differently by outside influences such as the draft.

Placement Status of Engineering and Technology Graduates - 1968

PLACEMENT STATUS	ENGINEERING		BACHELOR OF TECHNOLOGY 1/		ASSOCIATE DEGREE IN TECHNOLOGY 1/	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
EMPLOYED	15934	68%	648	75%	3173	55%
FULL-TIME STUDY	4116	18	32	4	1719	30
MILITARY SERVICE	2511	11	109	13	416	7
OTHER SPECIFIC PLANS	303	1	19	2	73	1
GRADUATES COMMITTED (Total of above)	22542	96	808	95	5381	93
CONSIDERING JOB OFFERS	791	3	46	5	381	7
NO OFFERS OR PLANS	142	*	8	*	51	*
TOTAL WITH STATUS KNOWN	23475	100	862	100	5813	100
NO INFORMATION	3340	--	61	--	599	--
TOTAL REPORTED	26815	--	923	--	6412	--

* Less than 1%

1/ Includes both engineering and industrial technology graduates.

NOTE: Percentages may not add to 100 because of rounding.

STARTING SALARIES

Beginning salaries for engineers continue to be among the highest of all categories of college graduates. The following table shows salary offers as reported to the College Placement Council by colleges and universities throughout the country.1/ The University of Detroit reports an average starting salary for new bachelor's degree engineers of $805 per month for those employed in industry and $640 for those in government.2/ The University of Illinois average for comparable 1968 graduates was $783.3/

CURRICULUM	AVERAGE OFFERS DOLLARS PER MONTH 1967-68	1966-67	PERCENT INCREASE OVER LAST YEAR
Aeronautical engineering	$761	$724	5.1%
Chemical engineering	790	733	7.8%
Civil engineering	750	706	6.2%
Electrical engineering	774	728	6.3%
Industrial engineering	757	707	7.1%
Mechanical engineering	768	720	6.7%
Metallurgical engineering	764	710	7.6%
Physics, chemistry, and mathematics	728	691	5.4%
Non-technical	657	614	7.0%

TYPE OF EMPLOYER, ALL CURRICULA (ENGINEERING AND OTHER)	AVERAGE OFFERS DOLLARS PER MONTH 1967-68	1966-67	PERCENT INCREASE OVER LAST YEAR
Aerospace and components	$754	$716	5.3%
Automotive and mechanical equipment	744	691	7.7%
Chemicals, drugs, and allied products	767	715	7.3%
Construction and building materials manufacturers	738	691	6.8%
Electrical machinery and equipment	760	708	7.3%
Electronics and instruments	765	718	6.5%
Metals and metal products	733	683	7.3%
Petroleum and products (includes natural gas)	757	705	7.4%
Research/consulting organizations	730	705	3.6%
Tire and rubber	728	675	7.9%
Utilities-public (includes transportation)	732	681	7.5%

1/A Study of 1967-68 Beginning Offers, Final Report, June 1968. The College Placement Council, 35 East Elizabeth Avenue, Bethlehem, Pennsylvania 18018.

2/Their First Jobs After College, 1968. Donald C. Hunt, University of Detroit

3/University of Illinois, College of Engineering. Salary Survey August 1968 Graduates.

HOW THE SURVEY WAS CONDUCTED

In June 1968 questionnaires were sent to the deans of all U. S. engineering schools and selected technological institutions with the request that they or their placement directors provide the required information. (Facsimiles of the forms used will be found in the Appendix.) Information was requested as of the date of graduation, but not later than July 1, 1968. One follow-up mailing was sent near the end of June.

Each year some schools do not report and new ones are added. Past studies have shown that this does not cause any material change in the results. There is, however, a possibility that the survey sample may not be entirely representative in that replies inherently come from schools with the best organized placement services and where recruiting is most intensive.

Combined replies from all schools are summarized on the facsimile forms in the back of this report, in addition to the charts and tables in the text.

ENGINEERING ENROLLMENTS AND DEGREES

As in previous reports, figures on enrollments and degrees are included to help place the survey in perspective. In the following table, enrollments are as of September of the year indicated. Degrees are those awarded in the twelve months through June 20 of the year shown. EMC projections have been made on the basis of population trends, reported enrollments, and estimates of attrition. Freshman enrollment figures reflect a decrease in the percentage of college freshmen who choose engineering curricula. From 23.3% in 1957, this dropped steadily to 13.5% in 1965. However, published statistics do not include an increasing number of students taking pre-engineering work at non-engineering schools under cooperative or transfer programs. As a result of these transfer students, engineering enrollments in the junior and senior years have been more favorable than freshman figures would indicate.

Engineering Enrollments and Degrees[1]

YEAR	FRESHMEN ENROLLMENTS	FIRST DEGREES	MASTER ENROLLMENTS	MASTER DEGREES	DOCTOR ENROLLMENTS	DOCTOR DEGREES
1953	60478	24164	18323	3635	3001	592
1954	65505	22236	17205	4078	3283	590
1955	72825	22589	18482	4379	3163	599
1956	77738	26306	22274	4589	3402	610
1957	78757	31221	23840	5093	4180	596
1958	70029	35332	27833	5669	4763	647
1959	67704	38134	29355	6615	5643	714
1960	67556	37808	30817	6989	6445	786
1961	67575	35860	32054	7977	7869	943
1962	64707	34735	35359	8909	9240	1207
1963	65740	33458	37781	9460	10827	1378
1964	73682	35226	42159	10827	12622	1693
1965	79872	36691	44208	12246	13947	2124
1966	78400[2]	35815	-	13677	-	2303
PROJECTIONS[3]						
1967	77551[4]	37310	34231[4]	15130	15376[4]	2650
1968	76000	38002[5]	-	15152[5]	-	2933[5]
1969	77600	45340	-	17760	-	3640
1970	79700	43740	-	21690	-	3980
1971	82100	43390	-	24810	-	4140
1972	84400	43990	-	25630	-	4620
1973	36200	44340	-	27190	-	5710

1/ Figures are from U. S. Office of Education unless otherwise noted.

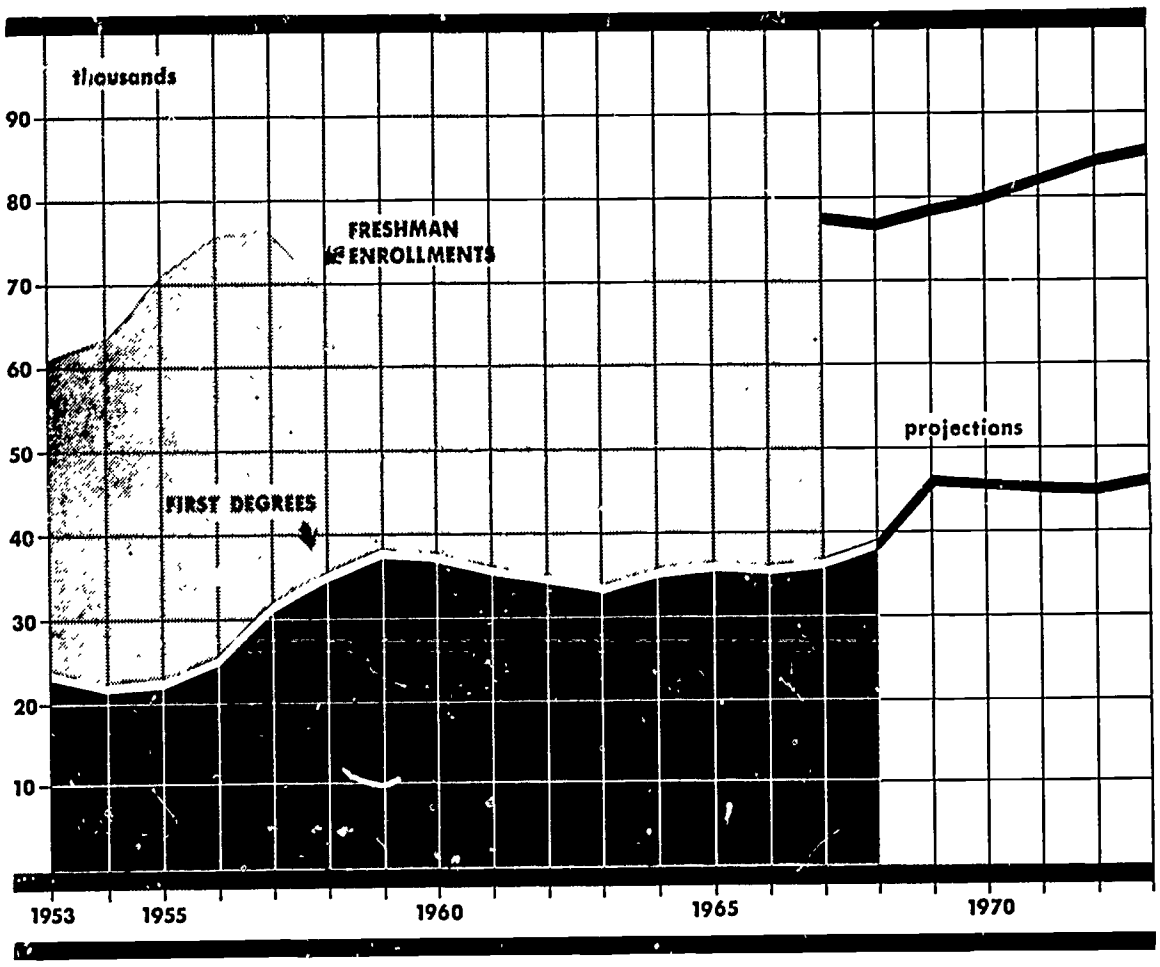
2/ 1966 enrollment data not available, EMC estimate given.

3/ Enrollment projections by EMC. Degree projections by U. S. Office of Education.

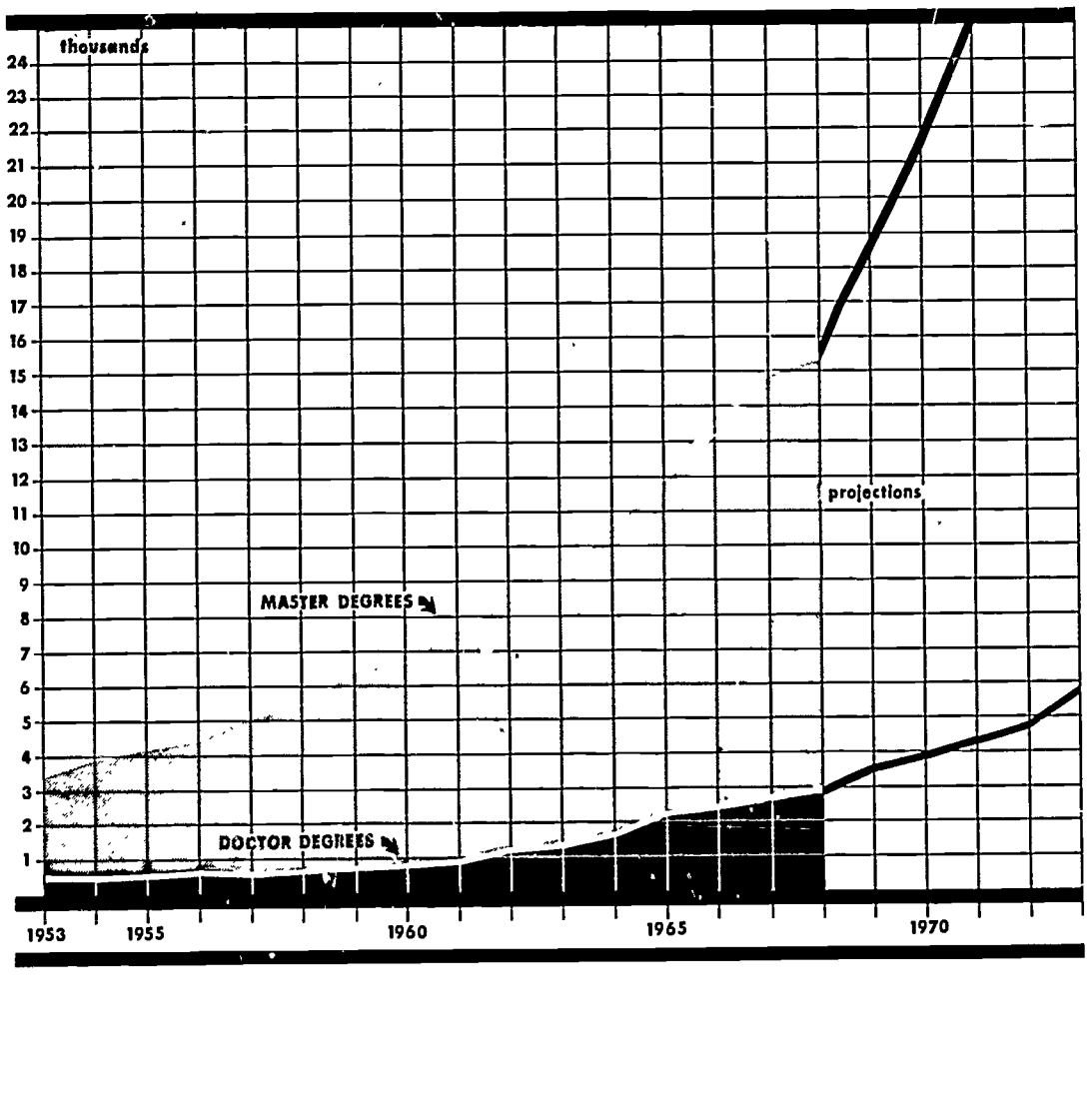
4/ Actual number, full-time enrollments only, from Engineering and Technician Enrollments - Fall, 1967, Engineering Manpower Commission of Engineers Joint Council, 345 East 47th Street, New York, New York 10017. $1.00 prepaid.

5/ Actual number, from Engineering Degrees 1967-68, Engineering Manpower Commission of Engineers Joint Council, 345 East 47th Street, New York, New York 10017. $2.00 prepaid.

Freshman Enrollments and Bachelor's Degrees in Engineering



Engineering Master's and Doctor's Degrees



ANALYSIS OF NON-RESPONDENTS

The percentage of responses to this year's survey is slightly lower than last year. A breakdown of response to the survey is as follows:

	SCHOOLS WITH ECPD-ACCREDITED ENGINEERING CURRICULA	OTHER ENGINEERING SCHOOLS	SCHOOLS WITH ECPD-ACCREDITED ENGINEERING TECHNOLOGY CURRICULA[1]
Questionnaires sent	185	90	44
Usable replies received	151	57	37[2]
No degrees this year	0	3	0
No information available or no reply	34	30	7

1/ Pennsylvania State University campuses counted as a single institution.

2/ Graduates in technology curricula were also reported from 24 schools on the engineering list and 15 other technical institutions.

A few of the replies counted as usable are not included in the main tables of this report but are mentioned in the section on special schools. Many schools wrote in that they simply could not provide the information requested, or provided partial information only.

In terms of students covered, for the engineering schools, it is estimated that the non-responding schools accounted for about 2,500 new graduates. (The fact that this survey did not attempt to cover graduates who completed their work in February or at other times during the year accounts for the difference between total June graduates and total numbers of degrees awarded during the entire academic year.)

In the engineering schools reported, placement status was known on about 88% of the graduates. This adds another 3,340 new engineers about whom nothing is known. Since the percentage of "no information" has remained quite stable over the years this survey has been conducted, we feel that employment and graduate school trends are reasonably reliable, even though exact figures could be in error because of the unknowns.

Of the technology schools, 37 of the 44 with ECPD-accredited curricula reported information on about 91% of their graduates. The bachelor of technology schools that returned useful replies were able to report the status of 93% of their graduates. It is difficult to estimate the number of graduates from schools which did not respond, as our mailing list of schools offering bachelor of technology programs may not be complete. However, we believe that the number of students not reported in these programs is quite small.

It is perhaps reasonable to assume that those students who had made no contact with their dean or placement office had such definite future plans that they had no need for placement assistance.

It should be a matter of concern to engineering educators that 18% of engineering schools are unable or unwilling to provide usable information for a survey of this nature, and that the schools which do report useful information have apparently lost contact with about 12% of their graduating students. These categories of "non-response" represent an absence of data which can only serve to cloud the picture of engineering graduates. To the extent that this may imply a loss of rapport between students and faculty or administration, the situation calls for continued attention on the part of engineering educators to improve the communication between themselves and their students.

Availability of Information on Graduates as Reported
by Responding Institutions - 1968

	INFORMATION		NO INFORMATION		TOTAL	
	No.	%	No.	%	No.	%
ENGINEERING[1]	23475	87.5%	3340	12.5%	26815	100.0%
ECPD-ACCREDITED[2]	21355	87.7%	3009	12.3%	24364	100.0%
NON-ECPD-ACCREDITED	2120	85.6%	331	14.4%	2451	100.0%
BACHELOR OF TECHNOLOGY	862	93.4%	61	6.6%	923	100.0%
TECHNICIAN	5813	90.6%	599	9.4%	6412	100.0%

1/ Armed forces, maritime, and industry schools not included.

2/ Covers all students in any institution having at least one curriculum in engineering accredited by ECPD.

ALL ECPD-ACCREDITED
(EXCEPT MILITARY)

FORM A - ENGINEERING CURRICULA (Please use Form B for Engineering Technology Graduates)

THE PLACEMENT OF ENGINEERING GRADUATES - 1968

Questionnaire Form -- Confidential When Completed

Name of Institution: _____ Reporting Officer: _____

Address: _____ State: _____ Zip Code: _____

Please complete the form below for all engineering graduates at the bachelor or first degree level of the 1968 graduating class. Do not include evening school students. The data should be based on the situation prevailing as of the date of graduation, which will vary among schools. A copy of the results will be mailed to all participants.

PLACEMENT STATUS OF GRADUATES

Engineering Curriculum or Option	1 No. of Degrees Awarded (Total of Col. 2-9)	EMPLOYED 2 Entering Regular Employment	EMPLOYED 3 Entering Full Time Grad.Studies Sponsored By Employers*	4 Entering Full Time Graduate Studies (Exclusive of Column 3)	5 Still Considering Offers of Employment	6 Entering Military Service R.O.T.C.	6 Entering Military Service Other	7 Other Specific Plans	8 No Employment Offers Or Other Plans	9 No Information	NO. OF SCHOOLS INCLUDED
A Aerospace	1088	571	4	172	28	91	54	15	3	150	32
B Agricultural	248	113	1	47	7	15	22	7	0	36	34
C Architectural	157	88	1	18	6	10	11	0	0	23	11
D Ceramic	165	87	2	38	10	8	11	1	2	6	10
E Chemical	2396	1500	22	438	53	112	61	18	13	179	102
F Civil	3778	2122	29	582	83	230	191	54	30	457	125
G Electrical-Electronic	6924	4096	130	891	212	287	296	48	33	931	132
H Engineering, General	768	477	4	124	15	20	38	16	8	66	24
I Eng.Sci.,Phys.,Mech.	694	239	6	214	27	34	17	7	5	145	42
J Industrial,Admin.-Mgt.	1665	914	14	246	23	140	96	24	6	202	60
K Mechanical	5088	3038	73	656	147	224	209	60	33	648	127
L Metallurgical-Materials	520	303	2	105	13	11	21	5	2	58	42
M Min.,Geol.,Geoph.	203	133	0	25	11	9	16	0	0	9	25
N Naval Arch.and Marine	41	10	0	2	0	2	11	0	0	16	2
O Nuclear	96	33	2	23	5	3	2	1	0	27	12
P Petroleum	143	107	0	18	7	2	3	1	1	4	14
Q All Other Engineering	390	162	2	49	23	14	61	27	0	52	26
TOTAL OF ABOVE	24364	13993	292	3648	670	1212	1120	284	136	3009	148

*Include only students whose employment involves full-time graduate study at employer's expense. Do not include ordinary scholarships or fellowships where student is not in an employed status. Students employed in an academic capacity (teaching and research assistant) incidental to graduate study should be included in Column 4.

PLEASE COMPLETE AND RETURN THIS FORM AS OF DATE OF GRADUATION, PREFERABLY NOT LATER THAN JULY 1, 1968. When completed, send to Engineering Manpower Commission, 345 East 47th Street, New York, New York 10017.

ALL NON-ECPD-ACCREDITED
(EXCEPT MILITARY, MARITIME, AND INDUSTRY SCHOOLS)

FORM A - ENGINEERING CURRICULA (Please use Form B for Engineering Technology Graduates)

T H E P L A C E M E N T O F E N G I N E E R I N G G R A D U A T E S - 1 9 6 8

Questionnaire Form -- Confidential When Completed

Name of Institution: _____ Reporting Officer: _____

Address: _____ State: _____ Zip Code: _____

Please complete the form below for all engineering graduates at the bachelor or first degree level of the 1968 graduating class. Do not include evening school students. The data should be based on the situation prevailing as of the date of graduation, which will vary among schools. A copy of the results will be mailed to all participants.

PLACEMENT STATUS OF GRADUATES

Engineering Curriculum or Option	1 No. of Degrees Awarded (Total of Col. 2-9)	EMPLOYED 2 Entering Regular Employment	EMPLOYED 3 Entering Full Time Grad.Studies Sponsored By Employers*	4 Entering Full Time Graduate Studies (Exclusive of Column 3)	5 Still Considering Offers of Employment	6 Entering Military Service R.O.T.C.	6 Entering Military Service Other	7 Other Specific Plans	8 No Employment Offers Or Other Plans	9 No Information	NO. OF SCHOOLS INCLUDED
A Aerospace	258	165	2	6	15	2	19	6	0	43	10
B Agricultural	41	32	0	1	0	0	2	0	0	6	3
C Architectural	94	30	0	2	0	1	17	0	0	44	3
D Ceramic	-	-	-	-	-	-	-	-	-	-	-
E Chemical	50	34	0	3	4	0	3	0	2	4	8
F Civil	255	182	2	12	15	3	6	0	0	35	15
G Electrical-Electronic	676	489	12	27	24	7	25	1	3	88	23
H Engineering, General	112	70	8	7	0	1	10	4	0	12	8
I Eng.Sci.,Phys.,Mech.	207	115	4	52	6	9	8	2	0	11	14
J Industrial,Admin.-Mgt.	194	124	0	8	9	11	21	0	0	21	13
K Mechanical	457	308	2	20	44	3	25	3	1	51	21
L Metallurgical-Materials	6	3	0	0	0	0	0	0	0	3	1
M Min.,Geol.,Geoph.	20	18	0	2	0	0	0	0	0	0	2
N Naval Arch.and Marine	-	-	-	-	-	-	-	-	-	-	-
O Nuclear	-	-	-	-	-	-	-	-	-	-	-
P Petroleum	-	-	-	-	-	-	-	-	-	-	-
Q All Other Engineering	81	49	0	6	4	2	4	3	0	13	8
TOTAL OF ABOVE	2451	1619	30	146	121	39	140	19	6	331	52

*Include only students whose employment involves full-time graduate study at employer's expense. Do not include ordinary scholarships or fellowships where student is not in an employed status. Students employed in an academic capacity (teaching and research assistant) incidental to graduate study should be included in Column 4.

PLEASE COMPLETE AND RETURN THIS FORM AS OF DATE OF GRADUATION, PREFERABLY NOT LATER THAN JULY 1, 1968. When completed, send to Engineering Manpower Commission, 345 East 47th Street, New York, New York 10017.

ALL REPORTING INSTITUTIONS

FORM B - ENGINEERING TECHNOLOGY CURRICULA (Please use Form A for Engineering Graduates)

THE PLACEMENT OF ENGINEERING TECHNOLOGY GRADUATES - 1968

Questionnaire Form -- Confidential When Completed

Name of Institution: _____ Reporting Officer: _____

Address: _____

Please complete the form below for all graduates of engineering technology curricula at both associate and bachelor's degree level. Do not include evening students. Data should be based on the situation prevailing as of the date of graduation, which will vary among schools. A copy of the results will be mailed to all participants.

PLACEMENT STATUS OF GRADUATES

CURRICULUM	1 Number of Graduates in Each Curriculum	2 Accepted Employment	3 Entering Full-Time Continuing Study	4 Still Considering Offers of Employment	5 Entering Military Service	6 Other Specific Plans	7 No Employment Offers or Other Plans	8 No Information	NO. OF SCHOOLS INCLUDE
I. Associate Degree or Equivalent									
A. Aerospace Eng. Tech.	201	72	90	6	26	1	0	6	5
B. Chemical & related Eng. Tech.	155	75	42	3	5	0	10	20	15
C. Civil & related Eng. Tech.	885	396	259	39	84	4	10	93	31
D. Drafting & Design Tech.	463	314	76	20	17	0	2	34	16
E. Electrical-Electronic & related	2716	1553	602	194	152	46	11	158	53
F. Industrial Engineering Tech.	160	67	30	8	16	2	0	37	9
G. Mechanical & related Eng. Tech.	1104	460	341	61	82	13	2	144	40
H. Other Engineering Technology	485	168	194	17	27	7	12	60	22
I. Industrial Technology	243	68	85	33	7	0	3	47	13
TOTAL ASSOCIATES OR EQUIVALENT	6412	3173	1719	361	416	73	51	599	59
II. Bachelor's Degree in Technology									
J. Aerospace Eng. Tech.	33	24	3	0	6	0	0	0	3
K. Chemical & related Eng. Tech.	1	0	0	0	1	0	0	0	1
L. Civil & related Eng. Tech.	52	35	1	0	6	1	1	8	6
M. Drafting & Design Tech.	55	45	4	1	3	0	0	2	6
N. Electrical-Electronic & related	242	182	6	22	15	5	0	12	14
O. Industrial Engineering Tech.	8	5	0	1	1	1	0	0	3
P. Mechanical & related Eng. Tech.	94	65	7	4	10	2	1	5	10
Q. Other Engineering Technology	148	96	5	9	10	5	4	19	7
R. Industrial Technology	290	196	6	9	57	5	2	15	11
TOTAL BACHELOR'S DEGREE	923	648	32	46	109	19	8	61	29

PLEASE COMPLETE AND RETURN THIS FORM AS OF DATE OF GRADUATION, PREFERABLY NOT LATER THAN JULY 1, 1968. When completed, send to: Engineering Manpower Commission, 345 East 47th Street, New York, New York 10017.

Names of Participating Institutions

Although replies were received from other schools, only data reported by those listed below are included in this report. A few questionnaires were returned too late to be included in the tabulations, and others were too incomplete to be useful.

Engineering Graduates

Auburn University, Auburn, Alabama
Tuskegee Institute, Tuskegee, Alabama
University of Alabama, University, Alabama
Arizona State University, Tempe, Arizona
University of Arizona, Tucson, Arizona
University of Arkansas, Fayetteville, Arkansas
Arkansas State University, State University, Arkansas
Chico State College, Chico, California
Harvey Mudd College, Claremont, California
University of California, Davis, California
Fresno State College, Fresno, California
Northrop Institute of Technology, Inglewood, California
Western States College of Engineering, Inglewood, California
University of California, La Jolla, California
California State College, Long Beach, California
Naval Postgraduate Schools, Monterey, California
San Fernando Valley State College, Northridge, California
California Institute of Technology, Pasadena, California
California State Polytechnic College, Pomona, California
University of Redlands, Redlands, California
Sacramento State College, Sacramento, California
San Diego State College, San Diego, California
San Francisco State College, San Francisco, California
California State Polytechnic College, San Luis Obispo, California
University of Santa Clara, Santa Clara, California
Stanford University, Stanford, California
University of the Pacific, Stockton, California
University of Colorado, Boulder, Colorado
University of Denver, Denver, Colorado
Colorado State University, Fort Collins, Colorado
Colorado School of Mines, Golden, Colorado
United States Air Force Academy, Colorado
Bridgeport Engineering Institute, Bridgeport, Connecticut
University of Bridgeport, Bridgeport, Connecticut
Yale University, New Haven, Connecticut

United States Coast Guard Academy, New London, Connecticut
University of Connecticut, Storrs, Connecticut
University of Hartford, West Hartford, Connecticut
University of Delaware, Newark, Delaware
Catholic University, Washington, D. C.
The George Washington University, Washington, D. C.
Howard University, Washington, D. C.
University of Miami, Coral Gables, Florida
Embry-Riddle Aeronautical Institute, Daytona Beach, Florida
University of Florida, Gainesville, Florida
Florida State University, Tallahassee, Florida
University of Georgia, Athens, Georgia
Georgia Institute of Technology, Atlanta, Georgia
University of Hawaii, Honolulu, Hawaii
University of Idaho, Moscow, Idaho
Southern Illinois University, Carbondale, Illinois
Aerospace Institute, Chicago, Illinois
Illinois Institute of Technology, Chicago, Illinois
Millikin University, Decatur, Illinois
Northwestern University, Evanston, Illinois
Bradley University, Peoria, Illinois
University of Illinois, Urbana, Illinois
Tri-State College, Angola, Indiana
University of Evansville, Evansville, Indiana
Indiana Institute of Technology, Fort Wayne, Indiana
Purdue University, Lafayette, Indiana
Rose Polytechnic Institute, Terre Haute, Indiana
Valparaiso University, Valparaiso, Indiana
Iowa State University, Ames, Iowa
The University of Iowa, Iowa City, Iowa
The University of Kansas, Lawrence, Kansas
Kansas State University, Manhattan, Kansas
Wichita State University, Wichita, Kansas
University of Kentucky, Lexington, Kentucky
University of Louisville, Louisville, Kentucky
Louisiana State University, Baton Rouge, Louisiana
Southern University, Baton Rouge, Louisiana
University of Southwestern Louisiana, Lafayette, Louisiana
McNeese State College, Lake Charles, Louisiana
Louisiana State University, New Orleans, Louisiana
Tulane University, New Orleans, Louisiana
Louisiana Polytechnic Institute, Ruston, Louisiana
Maine Maritime Academy, Castine, Maine
University of Maine, Orono, Maine
The Johns Hopkins University, Baltimore, Maryland
University of Maryland, College Park, Maryland
University of Massachusetts, Amherst, Massachusetts
Boston University, Boston, Massachusetts
Harvard University, Cambridge, Massachusetts
Tufts University, Medford, Massachusetts
Merrimack College, North Andover, Massachusetts

Western New England College, Springfield, Massachusetts
Worcester Polytechnic Institute, Worcester, Massachusetts
University of Michigan, Ann Arbor, Michigan
Andrews University, Berrien Springs, Michigan
University of Detroit, Detroit, Michigan
Michigan State University, East Lansing, Michigan
General Motors Institute, Flint, Michigan
Michigan Technological University, Houghton, Michigan
Oakland University, Rochester, Michigan
University of Minnesota, Minneapolis, Minnesota
Mississippi State University, State College, Mississippi
The University of Mississippi, University, Mississippi
University of Missouri, Columbia, Missouri
Rockhurst College, Kansas City, Missouri
University of Missouri, Kansas City, Missouri
University of Missouri, Rolla, Missouri
Saint Louis University, St. Louis, Missouri
Washington University, St. Louis, Missouri
Central Missouri State College, Warrensburg, Missouri
Montana State University, Bozeman, Montana
Montana College of Mineral Science and Technology, Butte, Montana
University of Nebraska, Lincoln, Nebraska
University of Nebraska, Omaha, Nebraska
University of Nevada, Reno, Nevada
University of New Hampshire, Durham, New Hampshire
Dartmouth College, Hanover, New Hampshire
Stevens Institute of Technology, Hoboken, New Jersey
Newark College of Engineering, Newark, New Jersey
Rutgers-The State University, New Brunswick, New Jersey
Princeton University, Princeton, New Jersey
Monmouth College, West Long Branch, New Jersey
University of New Mexico, Albuquerque, New Mexico
New Mexico State University, Las Cruces, New Mexico
SUNY - College of Ceramics, Alfred, New York
New York University, Bronx, New York
SUNY - Maritime College, Bronx, New York
Polytechnic Institute of Brooklyn, Brooklyn, New York
Pratt Institute, Brooklyn, New York
Webb Institute of Naval Architecture, Glen Cove, New York
C. W. Post College, Greenvale, New York
Hofstra University, Hempstead, New York
Cornell University, Ithaca, New York
The City College, New York, New York
The Cooper Union, New York, New York
Clarkson College of Technology, Potsdam, New York
Rochester Institute of Technology, Rochester, New York
University of Rochester, Rochester, New York
SUNY - Stony Brook, Stony Brook, New York
Rensselaer Polytechnic Institute, Troy, New York
University of North Carolina, Chapel Hill, North Carolina
University of North Carolina, Charlotte, North Carolina

Duke University, Durham, North Carolina
North Carolina A & T State University, Greensboro, North Carolina
North Carolina State University, Raleigh, North Carolina
North Dakota State University, Fargo, North Dakota
University of North Dakota, Grand Forks, North Dakota
Ohio Northern University, Ada, Ohio
The University of Akron, Akron, Ohio
Ohio University, Athens, Ohio
Case Western Reserve University, Cleveland, Ohio
Cleveland State University, Cleveland, Ohio
The Ohio State University, Columbus, Ohio
University of Dayton, Dayton, Ohio
The University of Toledo, Toledo, Ohio
Air Force Institute of Technology, Wright-Patterson AFB, Ohio
University of Oklahoma, Norman, Oklahoma
Oklahoma State University, Stillwater, Oklahoma
Oregon State University, Corvallis, Oregon
University of Portland, Portland, Oregon
Geneva College, Beaver Falls, Pennsylvania
Lehigh University, Bethlehem, Pennsylvania
PMC Colleges, Chester, Pennsylvania
Lafayette College, Easton, Pennsylvania
Gannon College, Erie, Pennsylvania
Bucknell University, Lewisburg, Pennsylvania
Drexel Institute of Technology, Philadelphia, Pennsylvania
Philadelphia College of Textiles & Science, Philadelphia, Pennsylvania
University of Pennsylvania, Philadelphia, Pennsylvania
Carnegie-Mellon University, Pittsburgh, Pennsylvania
University of Pittsburgh, Pittsburgh, Pennsylvania
Swarthmore College, Swarthmore, Pennsylvania
Villanova University, Villanova, Pennsylvania
University of Rhode Island, Kingston, Rhode Island
Brown University, Providence, Rhode Island
The Citadel, Charleston, South Carolina
University of South Carolina, Columbia, South Carolina
South Dakota State University, Brookings, South Dakota
South Dakota School of Mines and Technology, Rapid City, South Dakota
University of Chattanooga, Chattanooga, Tennessee
University of Tennessee, Knoxville, Tennessee
Christian Brothers College, Memphis, Tennessee
Tennessee A & I State University, Nashville, Tennessee
Vanderbilt University, Nashville, Tennessee
University of Texas, Arlington, Texas
University of Texas, Austin, Texas
Lamar State College, Beaumont, Texas
Southern Methodist University, Dallas, Texas
University of Texas, El Paso, Texas
Rice University, Houston, Texas
Texas A & I University, Kingsville, Texas
LeTourneau College, Longview, Texas
Trinity University, San Antonio, Texas

Utah State University, Logan, Utah
Brigham Young University, Provo, Utah
University of Utah, Salt Lake City, Utah
The University of Vermont, Burlington, Vermont
Norwich University, Northfield, Vermont
Institute of Textile Technology, Charlottesville, Virginia
University of Virginia, Charlottesville, Virginia
Virginia Military Institute, Lexington, Virginia
Old Dominion College, Norfolk, Virginia
Walla Walla College, College Place, Washington
St. Martin's College, Olympia, Washington
Washington State University, Pullman, Washington
Gonzaga University, Spokane, Washington
Marshall University, Huntington, West Virginia
West Virginia Institute of Technology, Montgomery, West Virginia
The University of Wisconsin, Madison, Wisconsin
Marquette University, Milwaukee, Wisconsin
Milwaukee School of Engineering, Milwaukee, Wisconsin
Wisconsin State University, Platteville, Wisconsin
University of Wyoming, Laramie, Wyoming

Technology Graduates

Alabama A & M College, Normal, Alabama
Tuskegee Institute, Tuskegee, Alabama
Arizona State University, Tempe, Arizona
Northrop Institute of Technology, Inglewood, California
College of the Desert, Palm Desert, California
City College of San Francisco, San Francisco, California
Cogswell Polytechnical College, San Francisco, California
San Jose State College, San Jose, California
Ventura College, Ventura, California
Hartford State Technical College, Hartford, Connecticut
Norwalk State Technical College, Norwalk, Connecticut
Thames Valley State Technical College, Norwich, Connecticut
Capitol Institute of Technology, Washington, D. C.
Embry-Riddle Aeronautical Institute, Daytona Beach, Florida
St. Petersburg Junior College, St. Petersburg, Florida
Southern Technical Institute, Marietta, Georgia
Southern Illinois University, Carbondale, Illinois
DeVry Institute of Technology, Chicago, Illinois
Bradley University, Peoria, Illinois
Purdue University, Lafayette, Indiana
Iowa State University, Ames, Iowa
Western Kentucky University, Bowling Green, Kentucky
Southern University, Baton Rouge, Louisiana
University of Maine, Orono, Maine

Franklin Institute of Boston, Boston, Massachusetts
Wentworth Institute, Boston, Massachusetts
Michigan Technological University, Houghton, Michigan
Mississippi State University, State College, Mississippi
Central Technical Institute, Kansas City, Missouri
Montana State University, Bozeman, Montana
University of Nebraska, Lincoln, Nebraska
University of Nebraska, Omaha, Nebraska
Nevada Technical Institute, Stead, Nevada
Monmouth College, West Long Branch, New Jersey
New Mexico State University, Las Cruces, New Mexico
Queensborough Community College, Bayside, New York
Broome Technical Community College, Binghamton, New York
Erie County Technical Institute, Buffalo, New York
SUNY - Agricultural and Technical College, Canton, New York
SUNY - Agricultural and Technical College, Delhi, New York
SUNY - Agricultural and Technical College, Farmingdale, New York
Academy of Aeronautics, Flushing, New York
SUNY - Agricultural and Technical College, Morrisville, New York
RCA Institutes, New York, New York
Monroe Community College, Rochester, New York
Rochester Institute of Technology, Rochester, New York
Sullivan County Community College, South Fallsburg, New York
Mohawk Valley Community College, Utica, New York
Gaston College, Dallas, North Carolina
Fayetteville Technical Institute, Fayetteville, North Carolina
North Carolina A & T State University, Greensboro, North Carolina
Community and Technical College, Akron, Ohio
Ohio University, Athens, Ohio
Ohio Technical College, Columbus, Ohio
Sinclair Community College, Dayton, Ohio
University of Dayton, Dayton, Ohio
Miami University, Oxford, Ohio
The University of Toledo, Toledo, Ohio
Oklahoma State University, Stillwater, Oklahoma
Oregon State University, Corvallis, Oregon
Oregon Technical Institute, Klamath Falls, Oregon
Spring Garden Institute, Philadelphia, Pennsylvania
The Pennsylvania State University, University Park, Pennsylvania
University of Chattanooga, Chattanooga, Tennessee
East Tennessee State University, Johnson City, Tennessee
Memphis State University, Memphis, Tennessee
University of Texas, Arlington, Texas
LeTourneau College, Longview, Texas
Utah State University, Logan, Utah
Weber State College, Ogden, Utah
Brigham Young University, Provo, Utah
Vermont Technical College, Randolph Center, Vermont
Hampton Institute, Hampton Virginia
Old Dominion College, Norfolk, Virginia
West Virginia Institute of Technology, Montgomery, West Virginia
Milwaukee School of Engineering, Milwaukee, Wisconsin
Wisconsin State University, Platteville, Wisconsin