

THE UNIVERSITY OF MICHIGAN
INDUSTRY PROGRAM OF THE COLLEGE OF ENGINEERING

ANNUAL REPORT OF ENGINEERING PLACEMENT

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ENGINEERING PLACEMENT

1960-'61

The market for our engineering graduates again continued to be strong this year with a larger number of employers completing approximately the same number of interview visits and a "normal" increase in starting salaries. The year was distinguished, however, by a noticeable decline in recruiting intensity during the school year as evidenced by a higher rate of visit cancellations during the spring than in the fall, by the failure of starting salaries to rise between fall and spring as has occurred during the past several years, and by the smaller number and lateness of offers in the spring compared to the fall.

The major reason for the apparent decline noted above is believed to be increasing pressure from management for a higher degree of cost efficiency in recruiting rather than a decrease in the number of requirements for technical graduates. A number of the largest employers report reducing the number of schools visited this year by 25% to as much as 50% compared to the preceding several years. At the same time they seem to be concentrating more intense effort on the schools which have been most productive. This has been evidenced in our college by an increasing number of "pre-interview" visits to make contact with candidates before the regular interview visit and by more "follow-up" visits to continue contact with those to whom offers have been made and even to contact additional candidates. This trend has resulted in increasing demands on the placement office to furnish more information concerning available graduates, and strong pressure has developed for extending procedures

similar to those which have been established for PhD candidates to the BS and MS level. Such procedures have been extended on a limited experimental basis during the past two years with apparently beneficial results to students as well as to employers and it is expected that further extensions will be made.

Two trends are considered noteworthy in more limited areas. The first is the apparent decline in the proportion of students electing Chemical Engineering in spite of the fact that more than twice as many employers from the chemical industry made recruiting visits than from any other industry. The second is that a larger proportion of our graduates than ever before are starting their employment on the East or West coast rather than the Midwest. The balance between East and West also shifted to the West as compared with last year.

COMMENTS (See Table on following page.)

For the second consecutive year, the total number of graduates increased by only 3%.

The only major program to show an increasing trend over the past several years is Electrical, and the only one to show a decline is Chemical.

In recent years there has been no change in the proportion of graduates at each degree level or in the proportion in each class (Feb., June, and August).

NUMBER OF GRADUATES

PROGRAM	B.S.			M.S.			PH.D.		TOTAL IN EACH CLASS			TOTAL IN EACH PROG.	% IN EACH PROG.
	Aug '60	Feb '61	Jun '61	Aug '60	Feb '61	Jun '61	Feb '61	Jun '61	Aug '60	Feb '61	Jun '61		
Aeronautical	4	15	30	23	6	17	2		27	23	47	97	9%
Chemical	10	14	14	8	9	12	12	6	18	35	32	85	8%
Civil	10	24	33	14	17	21	1	1	24	42	55	121	12%
Electrical	24	71	52	9	22	35	6	6	33	99	93	225	22%
Engrg. Math	9	14	33						9	14	33	56	5%
Engrg. Mech.		7	3	2	4	11		2	2	11	16	29	3%
Engrg. Physics	2	3	7						2	3	7	12	1%
Industrial	4	19	26	4	1	2		1	8	20	29	57	6%
Instrumentation				10	6	13		1	10	6	14	30	3%
Materials	1	2	3	1					2	2	3	7	1%
Mechanical	24	49	55	9	11	21	6	1	33	66	77	176	17%
Metallurgical	1	3	16	1	2	2	2	1	2	7	19	28	3%
Meteorology			2								2	2	
Nav. Arch.	6	7	13	1	3	7			7	10	20	37	4%
Nuclear				10	5	16	2	2	10	7	18	35	3%
Science	2	11	15						2	11	15	28	3%
Program Unknown						3					3	3	
TOTALS IN EACH CLASS	97	239	302	92	86	160	31	21	189	356	483	1028	100%
% IN EACH CLASS	15%	38%	47%	27%	25%	48%	60%	40%	18%	35%	47%	100%	
TOTALS AT EACH DEGREE LEVEL	638			338			52		1028				
% AT EACH DEGREE LEVEL	62%			33%			5%		100%				

STUDENT AND ALUMNI ACTIVITY

NUMBER OF STUDENTS INTERVIEWING	BS	MS	PhD	Total
Citizens* for Regular Employment	413	190	74	677
Citizens for Summer Employment	281	58	25	364
Non-citizens	67	75	25	167
Totals	761	323	124	1208

NUMBER OF INTERVIEWS CONDUCTED FOR REGULAR EMPLOYMENT	Fall	Spring	Total
By Engineers, citizens	1865	2993	4858
By Engineers, non-citizens	564	487	1051
By Non-engineers	97	160	257
FOR SUMMER EMPLOYMENT	106	826	932
Totals	2632	4466	7098

AVERAGE NUMBER OF INTERVIEWS	BS	MS	PhD	Total
per Citizen Accepting Regular Employment	9.8	8.7	8.6	9.4

AVERAGE NUMBER OF PLANT VISITS	BS	MS	PhD	Total
per Citizen Accepting Regular Employment	1.9	3.1	7.2	2.5

POSTGRADUATE PLANS REPORTED BY CITIZENS

	BS		MS		PhD		Total	
	No.	%	No.	%	No.	%	No.	%
To Accept Reg. Emplm't.	221	57	72	41	16	59	309	52
To Continue School	119	31	71	40	8	30	198	34
To Military Service	48	12	34	19	3	11	85	14
Totals	388	100	177	100	27	100	592	100

NUMBER OF ALUMNI UTILIZING PLACEMENT SERVICE 131

*"Citizen" and "Non-citizen" refers to U.S. citizenship. Most non-citizens are available for temporary "practical training" employment only, usually for 18 months following graduation.

COMMENTS

The total number of students interviewing returned to the previous high reached in 1957-'58, and was 14% above last year.

The total number of interviews conducted was down as a result of a decrease of about 10% in the average number of interviews per student.

The average number of plant visits per student declined from 3.3 last year to 2.5 this year, probably as a result of fewer visit invitations being extended (see next section).

The proportion of graduates accepting regular employment declined to 52% from the 62% and 61% of the past two years, and the proportion returning to school increased to 34% from 26% and 23%. The proportion going to military service has shown no change during the past four years.

The number of alumni using placement service increased to nearly the high reached in the recession year of 1957-'58.

EMPLOYER ACTIVITY

NUMBER OF EMPLOYERS SCHEDULING INTERVIEW VISITS	Fall	Spring	Total
	333	381	473*

NUMBER OF INTERVIEW VISITS BY INDUSTRIES	Visits Scheduled	Visits Canceled	Visits Completed	
			No.	%
Aircraft and Missiles	84	8	76	13
Electrical Products	108	27	81	14
Chemical Products	232	33	199	33
Food	16	5	11	2
Automotive and Parts	10	3	7	1
Other Mechanical Products	96	21	75	13
Heavy Machinery & Equip.	18	5	13	2
Steel & Metallurgical	37	11	26	4
Construction, inc. Shipbldg.	9	2	7	1
Utilities, inc. Transp.	35	9	26	4
State & Local Gov't.	9	2	7	1
Federal Gov't.	55	14	41	7
Education and Research				
Related to Education	20	2	18	3
Consulting Engineers	14	4	10	2
Total	743	146	597	100

* This total is the number of separate employers who scheduled visits during the year. Since 241, or more than half, of these scheduled more than one visit, this total is not equal to the sum of the numbers of employers for fall and spring.

BY SIZE OF EMPLOYER'S ORGANIZATION

Large (Over 5000 employees)
 Medium (Between 500-5000 employees)
 Small (less than 500 employees)

Visits Scheduled	
No.	%
477	64
223	30
43	6
743	100

AVERAGE NUMBER OF OFFERS PER CITIZEN
 ACCEPTING REGULAR EMPLOYMENT

BS	MS	PhD	Total
3.1	4.3	5.6	3.5

AVERAGE NUMBER OF PLANT VISIT INVITA-
 TIONS PER CIT. ACC. REG. EMP.

BS	MS	PhD	Total
2.7	4.2	9.6	3.4

NUMBER OF EMPLOYERS REQUESTING APPLICANTS BY MAIL

Students for Regular Employment 185
 Students for Summer and Part-time 21
 Alumni with Experience 536

COMMENTS

The number of employers scheduling interview visits continued the increase of last year, and was only 4% less than the high of 1957-'58.

The number of interview visits scheduled reached an all-time high which was 7% higher than last year, but cancellations were nearly as high as in 1957-'58 so that the number of completed visits was almost exactly the same as last year. The proportion of cancellations was about 17% in the Fall and 22% in the Spring.

One third of the completed interview visits were made by the chemical industries, whereas the electrical, aircraft and missile, and mechanical industries accounted for about 14% each.

Nearly two-thirds of the completed interview visits were made by large companies with only 6% by companies with less than 500 employees.

The average number of offers per student declined from 5.2 last year to 3.5 this year and the average number of plant visit invitations

declined from 5.0 to 3.4.

The number of employers requesting graduates by mail declined 31% for new graduates and 16% for experienced alumni.

STARTING SALARIES ACCEPTED

(By Citizens for Regular Employment)

Program	BS		MS		PhD	
	No.	Aver.	No.	Aver.	No.	Aver.
Aeronautical	17	\$557	7	\$715	1	\$917
Chemical	14	545	9	657	9	807
Civil	29	518	7	564		
Electrical	69	550	15	686	2	838
Engineering Mechanics	3	584	2	763		
Industrial	11	540	2	611		
Instrumentation			8	711		
Mathematics	7	504				
Mechanical	46	546	12	644	2	867
Metallurgical	4	581	1	630	2	800
Naval Arch. & Marine	6	562	1	550		
Nuclear			7	651		
Physics	2	570				
Science	5	508				
Combined	6	560	1	655		
Total	220	---	72	---	16	---
Average	---	\$540	--	\$663	--	\$824

COMMENTS

Starting salaries increased about 3% this year which is about the same as for the past several years; however, the increase this year came in the fall rather than the spring, and the average of spring offers actually reduced the overall average for the year.

After running slightly behind Electricals for the past two years, Aero. and Astro. graduates again reported the highest average of the major programs.

POSITIONS ACCEPTED

(By Citizens for Regular Employment)

<u>BY LOCATION</u> (302 reported)		<u>BY TYPE OF WORK</u> (308 reported)	
	<u>%</u>		<u>%</u>
Michigan	31	Training Program	37
Other Midwest	13	Research & Development	32
East	24	Design or Systems Engrg.	19
West	28	Operations or Production	9
Other	4	Sales	1
	<u>100</u>	Teaching	<u>2</u>
			100

BY TYPE OF INDUSTRY
(310 reported)

<u>Manufacturing</u>		<u>Services</u>	
	<u>%</u>		<u>%</u>
Aircraft & Missiles	29	Construction, inc. Shipbldg.	5
Electrical Products	15	Utilities, inc. Transport.	3
Chemical Products	13	Consulting Engineering	4
Food	0	State & Local Gov't.	3
Automotive & Parts	9	Federal Gov't.	5
Other Mechanical Products	3	Education or Research	
Heavy Machinery & Equip.	2	Related to Education	<u>5</u>
Steel & Metallurgical	<u>4</u>		25
	75		

BY SIZE OF EMPLOYER'S ORGANIZATION
(311 reported)

	<u>No.</u>	<u>%</u>
Large (More than 5000 Employees)	188	61
Medium (Between 500-5000 Employees)	95	30
Small (Less than 500 Employees)	<u>28</u>	<u>9</u>
	311	100

COMMENTS

The proportion of graduates starting work in Michigan and the Midwest declined from 60% last year to 44% this year with a proportionate increase from 35% to 52% in the proportion going to the East and West Coasts.

The proportion of graduates starting in training programs rather than direct assignments continued to increase this year and has more than tripled in the past four years.

The proportion of graduates starting in the Aircraft and Electrical industries continued a several-year trend to increase, mainly at the expense of the Chemical industry.

The proportion of graduates starting with large organizations increased over last year, but is still substantially less than the previous two years.