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ABSTRACT

Postgraduate education, employment, and attitudes of 1973 and 1983 graduates of the University of California, Davis, (UC Davis) were surveyed in 1984. Responses were received from 60% of 1983 bachelor's degree recipients and 48% of 1973 graduates. Findings include: one-third of baccalaureate degree holders enrolled immediately in a postgraduate degree or credential program, and additional 30% entered graduate school within 11 years of graduation; between one-quarter (1983) to one-third (1973) of graduates chose UC Davis for their first professional program; over three-quarters of 1983 alumni who enrolled in graduate programs rated their undergraduate preparation as very good or more than adequate; about 58% of 1983 degree recipients accepted full-time jobs after graduation; nine out of 10 1983 respondents employed full-time reported that their undergraduate education prepared them adequately to very well for their current occupations; recent alumni reported high levels of interaction with faculty during their undergraduate years; and over 80% of 1983 respondents reported being satisfied or very satisfied with their undergraduate experience at UC Davis. The questionnaire and information on survey procedures and the study sample are appended. (SW)

THE GRADUATES OF 1983 and 1973:

Their Postgraduate Studies, Occupations, and Impressions of UC Davis

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Student Affairs Research and Information
University of California, Davis
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THE GRADUATES OF 1983 AND 1973:
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EXECUTIVE SUMMARY

* Preparation for postgraduate work is important to UC Davis undergraduates. One-third of baccalaureate degree holders enroll immediately in a postgraduate degree or credential program; an additional 30% enter graduate school within eleven years of graduation. Twenty-five percent of those who continued their education hold more than one degree.

* Between one-quarter (1983) to one-third (1973) of graduates choose UC Davis for their first postgraduate program.

* Over three-quarters of 1983 alumni who enrolled in graduate programs rate their undergraduate preparation as very good or more than adequate. Students entering professional schools or studying for doctoral degrees are especially likely to rate their preparation as being more than adequate.

* About 58% of 1983 degree recipients accepted full-time jobs upon graduation. Their average annual salary was $18,400 ($16,070 for women, $20,904 for men). Ninety-five percent of male graduates from 1973 are employed full-time, as are 56% of female graduates. Their mean annual salary is $35,716, about $15,000 higher than that reported in 1980.

* Nine out of ten 1983 respondents employed full-time report that their undergraduate education prepared them adequately to very well for their current occupations. Over 70% of these respondents report finding jobs in their chosen fields; only 18% are working in areas not related to their majors.

* Recent alumni report high levels of interaction with faculty during their undergraduate years. Over three-quarters of 1983 respondents met with faculty during office hours, had discussions with faculty outside of class, discussed career plans and sought academic advice from faculty. Close to half report having worked with faculty members on research projects. Fewer than 10% of respondents were dissatisfied with the accessibility and helpfulness of faculty in their undergraduate majors.

* Overall, 1983 respondents are satisfied with their undergraduate curriculum. If they were able to do it over, only 12% would choose another institution; less than one-quarter would select a different major. The most frequently identified change respondents would make would be to take greater advantage of internships. This finding is true in spite of the fact that a majority of respondents had worked in at least one internship as undergraduates.

* Over 80% of 1983 respondents report being satisfied or very satisfied with their undergraduate experience at UC Davis.

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Background

Students and parents alike have come increasingly to view the choice of college as an investment decision. They seek the institution that will offer the best return on the investment of their time, labor and capital. The University can assist potential applicants to select a college by accurately representing student outcomes, including students' satisfaction with their undergraduate experiences.

The "fit" between a student and the institution is important to both because of the strong relationship between goodness-of-fit and persistence to degree. A growing body of research strongly suggests that the extent to which a college responds to the needs, abilities and goals of its students affects student achievement and satisfaction. Alumni ratings provide a unique measure of an institution's ability to respond to the needs and interests of its students and to provide for them a high quality undergraduate education.

For these reasons, and because Federal and State agencies often request data on employment and income of degree recipients, alumni surveys are conducted regularly by UC Davis and focus on students' postgraduate education, occupations, and retrospective opinions about their undergraduate experience.

In 1977, 1980 and 1984, Student Affairs Research and Information studied bachelor's degree recipients from UC Davis. Each study included a survey of the previous year's graduates (1976, 1979, 1983) and one of the class of 1973. These surveys provide students and the campus with valuable information on the postgraduate outcomes and reflections of degree recipients.

Study Objectives

The primary objectives of this report on alumni outcomes are:

1) To assess the extent to which the graduates of 1973 and 1983 have pursued postgraduate education;

2) To examine occupational outcomes, including types of careers pursued and salaries, and

3) To explore recent graduates' attitudes toward their undergraduate majors, faculty, and education in general.

Methods

This report analyzes results collected from two survey instruments: first, a four-page questionnaire (Appendix A), sent in May 1984 to all graduates of calendar year 1983; second, a short post card update on post-graduate education and occupations (Appendix B), sent to graduates of calendar year 1973. Responses were received from 60% of 1983 bachelor's degree recipients and 48% of 1973 graduates. Estimates from the 1980 and 1977 alumni studies indicate that from 5% to 10% of graduates never receive surveys due to incorrect addresses; thus the effective response rates to the recent survey are probably higher. Where appropriate, findings of the 1980[1] and 1977[2] surveys are included for comparison.

Graduates of over 100 different undergraduate majors belonging to 12 fields of study returned questionnaires (Appendix C).[3] A complete description of survey procedures and of the sample and respondent population are provided in Appendix D. Analyses of potential sources of response bias indicate that respondents are representative of their classes in terms of gender, ethnicity and major; nevertheless, caution should be used in generalizing the findings in this study to an entire graduating class.

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[1]The Graduates of 1979 and 1973: Their Postgraduate Studies, Occupations, and Impressions of UC Davis, Student Affairs Research and Information, June 1981.

[2]The Recent Graduates of the University of California, Davis, Student Affairs Research and Information, June 1978.

[3]A field of study consists of a group of related majors as identified in the UC Davis Academic Plan. For instance, "Fine Arts" includes respondents from Art, Art History, Art Studio, Dramatic Art, and Music.

POSTGRADUATE EDUCATION

Most students who choose UC Davis do so with educational aspirations beyond the baccalaureate degree. In a 1984 telephone survey of admitted applicants,[4] 70% of respondents reported plans to pursue postgraduate studies, a finding consistent with earlier research on the educational aspirations of entering freshmen.[5] The alumni studies conducted to date confirm that, for the most part, UC Davis graduates are successful in fulfilling their aspirations.

A comparison of 1973 UC Davis graduates four, seven and eleven years after graduation shows the following pattern of postgraduate degree attainment:

Years Since Graduation:	Four	Seven	Eleven
Percent Holding a Postgraduate Degree:	35%	52%	58%

Degree Progress--Eleven Years After Graduation

As reflected in Table 1, almost two-thirds of 1973 bachelor's degree recipients have earned a postgraduate degree or credential, or are currently enrolled in a program that will award them one.

TABLE 1
ADVANCED DEGREE PROGRESS OF 1973 GRADUATES
(in percent of graduates)

CHARACTERISTIC	Men (n=573)	Women (n=610)	Total (n=1183)
Hold One or More Degrees	61%	55%	58%
Currently in Degree Program[1]	9	10	9
Currently Hold or Pursuing Degree	65	60	62

[1]Includes 57 respondents (5%) already holding one postgraduate degree.

[4]The College Selection Process of Freshmen Admitted to UC Davis: The Range of Choice, Student Affairs Research and Information, March 1985.

[5]The Class of 1980 as Entering Freshmen, Student Affairs Research and Information, May 1979.

The data on Table 1 indicate that a larger proportion of men (5%) than women have attained or are pursuing a postgraduate degree. This difference is smaller than that observed in the 1980 survey. At that time, 63% of male respondents had attained or were pursuing graduate degrees as compared with only 55% of female respondents. In the four years since the last survey, women have re-entered graduate programs in larger numbers than men but have yet to equal them in overall degree attainment.

The highest degrees earned or in progress for 1973 graduates are shown in Table 2 below. Graduates are counted only once in this table; for example, an individual with a master's degree and a doctorate appears only under the Doctorate category.[6] As of spring 1984, approximately 25% of the respondents included in this table held more than one postgraduate degree.

TABLE 2
DISTRIBUTION OF HIGHEST DEGREES EARNED BY 1973 GRADUATES
(in percent of graduates who continued their education)

	Years Since Graduation					
	Men		Women		Total	
DEGREE	Seven (n=381)	Eleven (n=374)	Seven (n=322)	Eleven (n=364)	Seven (n=703)	Eleven (n=738)
Master	46%	40%	43%	44%	45%	42%
Teaching Credential	13	9	43	30	26	19
Doctorate	7	21	2	7	5	14
Law	14	10	2	4	9	7
Medicine	7	8	2	2	5	5
Vet Medicine	7	7	2	3	5	5
Other[1]	5	6	6	10	6	8

[1]Includes medical, business and other credentials.

As the data above indicate, between 1980 and 1984 the number of earned doctorates tripled for both men and women. This change reflects the longer time period to degree for graduates in these programs. Graduates who had completed a doctoral degree program by spring 1984 took an average of 7.6 years beyond receiving their bachelor's degree to do so.

A second major change since the last survey is a decrease in the percent of all respondents reporting teaching credentials as their highest degree earned. Seven percent of the graduates holding teaching credentials in 1980 earned an additional advanced degree by spring 1984.

[6]An exception is made for doctors, lawyers and other professionals who have earned advanced degrees within their professions; they are counted only in the professional categories.

Master's degrees were most frequently reported as the highest degree earned. This finding was true for men in earlier alumni surveys, but represents a shift by women primarily away from holding teaching credentials as their highest degree.

Acquisition of degrees higher than a master's degree remains more common for men than for women. In particular, men with MDs outnumber women 4 to 1, with doctorates 3 to 1, and with JDs and DVMs over 2 to 1.

Because three-quarters of female respondents indicate that a master's degree or teaching credential is their highest degree earned, it is not surprising that over 40% of them report completing advanced degrees within two years of their baccalaureates. Only 23% of male respondents completed their highest degrees within the same time period. Two-thirds of both male and female respondents completed their highest degrees (to date) within five years of graduation. In spring 1984, 9% of the class of 1973 were in school, half working toward a first postgraduate degree.

The 1980 survey results indicate that graduates in Animal Sciences, Biological Sciences, Letters, and Physical Sciences were more likely than average to enroll in graduate school within seven years of college. Four years later the same pattern holds; 72% of Physical Sciences graduates, 71% of Biological Sciences graduates, 66% of Letters graduates, and 63% of Animal Sciences graduates have earned at least one postgraduate degree or credential as compared with 58% of all respondents. Appendix E contains data on degree attainment by field of study and major.

Education was the most common field in which 1973 graduates earned higher degrees; 18% of respondents (over three times as many women as men) earned degrees in this field. Appendix F lists advanced degree fields by gender. For men, degrees were earned most frequently in human health (18%), business (11%), engineering (11%), and law (11%). For women, the most frequently chosen degree fields were education (28%), social science (14%), human health (12%) and business (10%).

The University of California awards most of the postgraduate degrees earned by UC Davis graduates (see Table 3 below). Almost half (45%) of the degrees earned by 1973 graduates were from the UC system. UC Davis is the campus most frequently chosen for postgraduate work by graduates; 30% of their graduate degrees were earned at their alma mater.

TABLE 3
SOURCE OF POSTGRADUATE DEGREES AND CREDENTIALS
HELD BY 1973 UC DAVIS GRADUATES
(in percent of degrees)

University of California		Other California Schools		Out-of-	
Davis	Other	State	Private	State	Other
30%	15%	21%	12%	18%	4%

Degree Enrollment--One Year After Graduation

One in three graduates enroll within one year of graduation in a program that will grant them an advanced degree or credential; nine out of ten of those enroll full-time. For recent alumni, women (34%) are as likely as men (35%) to enroll in postgraduate work immediately upon graduation. The types of degrees pursued as of spring 1984 are shown on Table 4 below.

TABLE 4
DEGREES IN PROGRESS FOR 1983 GRADUATES
(in percent of graduates continuing their education)

DEGREE	Men (n=268)	Women (n=317)	Total (n=585)
Master	37%	38%	38%
Teaching Credential	6	19	13
Medicine	19	7	13
Doctorate	12	8	10
Law	13	6	9
Vet Medicine	2	5	3
Other[1]	11	17	14

[1]Includes medical, business and other credentials.

Overall, one in four of the graduates included in Table 4 is studying medicine, veterinary medicine, or law. Although male graduates are still more likely than females to pursue degrees in medicine and law, the difference in initial degree enrollment in these programs is less than the difference in professional degree attainment eleven years after graduation (see Table 2 above).

Another 25% of graduates enroll for teaching credentials or credentials in medical technology, dietetics or business. Fewer recent graduates are pursuing teaching credentials immediately upon graduation than reported in previous studies. Approximately 19% of 1973 graduates who hold postgraduate degrees have a teaching credential as their highest degree earned; an additional 7% hold a teaching credential together with another advanced degree. Most of these credentials were earned within two years of graduation. The fact that only half as many (13%) 1983 graduates enrolled initially in teaching credential programs suggests that the popularity of these programs is declining. This pattern is particularly striking for women; 39% of 1973 female graduates holding one or more advanced degrees earned a teaching credential. Only 19% of 1983 female graduates were pursuing a teaching credential at the time of this survey. This finding suggests that unless graduates choose at a later point to enroll in teacher credential programs, concerns about shortages of highly qualified teachers for grades K-12 in California may be well founded.

The remaining 50% of graduates initially enroll in master's or doctoral degree programs. Table 5 below lists their fields of postgraduate study.

TABLE 5
GRADUATE FIELDS OF STUDY FOR 1983 GRADUATES
(in percent of graduates pursuing master's or doctoral degrees)

FIELD OF STUDY	Men (n=132)	Women (n=145)	Total (n=277)
Social Sciences	16%	21%	19%
Engineering[1]	26	7	16
Biological Sciences[1]	12	14	13
Business	14	11	12
Math and Physical Sciences[1]	11	10	11
Health Fields	9	13	11
Food, Nutrition and Consumer Sciences	5	11	8
Arts, Humanities	2	7	4
Agriculture	5	3	4
Education	1	4	3

[1]Field in which women are considered underrepresented in the UC Davis Graduate Division.

Almost four times as many men as women pursue graduate degrees in engineering, while more women seek advanced degrees in social sciences than in other fields. However, it appears that women who chose nontraditional fields of study as undergraduates are as likely as men to pursue graduate work in those fields. For example, if only graduates holding bachelor's degrees in engineering are considered eligible for graduate study in that field, then women are as likely as men to pursue graduate work (20% vs. 18%). A more striking pattern is true of women with bachelor's degrees in Mathematics and Physical Sciences (58% vs. 41%) and Biological Sciences (12% vs. 6%). Because women from these fields are as likely as men to enroll in graduate school, efforts to increase female representation in these undergraduate majors could have significant impact in increasing their representation in nontraditional graduate programs and, perhaps ultimately, in eligibility pools for faculty hiring.

1983 graduates pursuing postgraduate studies come from a variety of undergraduate majors. Graduates from the Biological Sciences, Dietetics and Human Development are more likely than all respondents to go immediately to graduate school. Appendix G contains data on degree enrollment by major and undergraduate field of study.

Graduates continue to choose UC Davis most frequently as the school for their initial postgraduate work (see Table 6 below). One quarter of the 1983 graduates pursuing their education remained at Davis. However, the numbers who do so are decreasing somewhat as more graduates select California State Universities, California private universities, and schools out of state.

TABLE 6
SCHOOLS ATTENDED FOR FIRST POSTGRADUATE DEGREE
(in percent of graduates who continued their education)

SCHOOL	Year of Graduation 1973 (n=804)	1976 (n=484)	1979 (n=419)	1983 (n=585)
University of California	44%	45%	49%	37%
UC Davis	(31)	(29)	(36)	(25)
California Private	15	19	14	17
California State University	20	14	11	17
Out-of-State	15	20	17	20
Other	4	3	10	9

Source: 1977, 1980, 1984 Surveys of Graduates; 1973 respondents were four years out of college; 1976, 1979, and 1983 graduates were one year out.

Female graduates are more likely than male graduates to remain at UC Davis for their initial postgraduate work. Of the 147 recent graduates choosing to remain at UC Davis, 63% were women. Larger numbers of men attend private universities in California (22% vs. 12%) and go out of state to school (24% vs. 17%).

1983 alumni were asked to rate the extent to which they perceived their undergraduate work at UC Davis prepared them for their postgraduate studies. Graduates were in their first year of postgraduate work when they answered the question. Response options ranged from 1 (very well prepared) to 5 (poorly prepared). The mean rating for all respondents was 1.71, more than halfway between 1 (very well prepared) and 2 (more than adequately prepared). These positive perceptions are slightly higher than those of 1979 graduates (mean rating = 1.79).

High ratings of undergraduate preparation are reported by graduates from all majors. There are only small differences in the mean ratings of graduates from different majors, ranging from 1.3 for graduates of Dietetics and Physiology to 1.9 for graduates of Animal Science and Economics. There were no statistically significant differences ($p < .05$) in mean ratings of graduate school preparation among any of the undergraduate majors, nor were there differences in perceptions based on gender. However, there were

differences in preparedness ratings based on type of postgraduate work. As the data on Table 7 below indicate, graduates studying for doctorates and for professional degrees have the most positive perceptions of their undergraduate preparation.

TABLE 7
1983 GRADUATES' RATINGS OF PREPARATION FOR POSTGRADUATE STUDIES
BY DEGREE PROGRAM
(in percent of graduates continuing their education)

DEGREE PROGRAM	n	Preparedness Rating: Less Than Adequate/Poor	Adequate	More Than Adequate/Well
Teaching Credential	69	0%	19%	82%
Master	214	2	21	78
Doctorate	30	0	7	93
Professional Degree[1]	157	1	12	87

[1]Includes MD, DVM, DDS, and JD programs, and doctorates in optometry, pharmacy, podiatry, and chiropractic.

A further indication of preparedness for postgraduate studies is performance on standardized tests. Tests, such as the Graduate Record Examination (GRE), the Medical Colleges Admission Test (MCAT), and the Law School Admission Test (LSAT), are widely used by graduate and professional school admissions officers to help determine applicant aptitude. Table 8 shows recent UC Davis and U. S. national averages on these examinations.

TABLE 8
COMPARISON OF UC DAVIS AND NATIONAL
MEAN SCORES ON GRADUATE SCHOOL ADMISSIONS TESTS

STUDENTS	EXAMINATION SCORES: GRE VERBAL	GRE QUANTITATIVE	GRE ANALYTICAL	MCAT	LSAT
UC Davis	530	614	600	10.1	33.78
U.S.	492	546	535	8.6	31.60

Note: These are applicant scores; scores of accepted students are higher.
Source: UC Davis Advising Services, 1983-1984 data.

CAREER OUTCOMES

Eleven Years After Graduation

The most recent survey of 1973 bachelor's degree alumni asked for an update on the types of jobs currently held by them and their annual salaries. Overall, about 95% of the men and 56% of the women were employed full-time at the time of the survey. Over half of the remaining female respondents were working part-time; 19% indicated that they were occupied full-time in the home. Among respondents employed full-time, 17% of the men and 12% of the women were self-employed.

The survey did not ask alumni why or how they came to be working in certain professions, nor did it collect data on explanatory variables for salary, such as time in the labor market. Consequently, the results captured below provide only a general descriptive picture of the career choices made by UC Davis alumni at one point in time.

Table 9 shows that the most frequently reported jobs for 1973 alumni were in business, including the areas of finance, insurance, purchasing, public relations and sales. Eighteen percent of graduates were working in

TABLE 9
PRIMARY CAREER AREAS AND MEAN ANNUAL SALARIES OF
1973 GRADUATES EMPLOYED FULL-TIME

CAREER AREA	n	Percent	Cumulative Percent	Mean Annual Salary[1]
Business	157	18%	18%	$46,807
Professions[2]	132	15	33	50,783
Education	123	14	47	23,357
Engineering	90	10	57	42,288
Scientific researcher or technician	86	10	67	29,501
Government analyst or administrator	27	3	70	33,232
Farm, fishery, forest owner or manager	25	3	73	35,526
Social, welfare worker	24	3	76	23,762
Computer programmer, analyst	24	3	79	31,387
Medical, dental technician	21	2	81	29,759
All Other Areas (30 occupations)	178	19	100	27,350

[1]Approximately 15% of respondents did not provide salary data.
[2]Primarily physicians, veterinarians, dentists and attorneys.

these areas, earning the second highest mean annual salary ($46,807). The next most frequently reported career category, professional, includes primarily physicians, veterinarians, dentists, and attorneys. This group earns the highest mean annual salary ($50,783). Teachers and school administrators represent the third largest category of occupations but earn the lowest salaries of all 1973 graduates ($23,357). Jobs in these three areas --business, professions, and education--account for about half of the full-time employment of 1973 alumni.

Appendix H lists all of the occupations and salaries of 1973 graduates employed full-time. Approximately 65 occupations are represented. Mean annual salaries range from $12,000 to $15,000 for artists and veterinary assistants to over $60,000 for physicians and business executives. The overall annual mean salary reported by 1973 graduates is $35,716, about $15,000 higher than that reported in 1980.

Another way of looking at salary data is by highest level of education. Table 10 below lists the mean annual salaries of graduates by their highest level of education. The highest salaries are earned by graduates with professional degrees.[7] Together, they earn from $11,000 to $15,000 more per year than graduates with BAs, MAs, and PhDs, and $20,000 to $26,000 more per year than graduates with teaching credentials.

TABLE 10
MEAN AND MEDIAN ANNUAL SALARIES OF 1973 GRADUATES EMPLOYED FULL-TIME BY HIGHEST DEGREE EARNED AND GENDER

CHARACTERISTIC	Highest Degree BA	Teaching Credential	MA/MS	PhD	Prof.
MEN					
Mean Salary	$38,984	$26,537	$39,964	$34,656	$51,303
Median Salary	33,838	25,125	34,800	31,550	41,900
WOMEN					
Mean Salary	26,726	22,200	29,138	29,828	44,277
Meidan Salary	23,987	21,450	26,725	25,150	40,050
TOTAL					
Mean Salary	34,399	23,872	35,190	33,187	49,910
Median Salary	29,993	22,500	30,033	30,450	41,900

Note: The sample sizes for salary data are all over 20, with the exception of women with PhDs (n=14).

[7]Salaries by the career category "Professions" do not equal salaries earned by those with professional degrees because of the number of graduates working outside of their professions. This finding holds true for other groups of graduates as well.

This finding is consistent with data on Table 9 and Appendix H, which show occupations that require professional training as a prerequisite command the highest salaries. Professional degree holders share many common characteristics. Most of them went immediately into graduate school upon completing their baccalaureates; almost three-quarters of them completed their degrees within five years of their baccalaureates. Not surprisingly, given their ages and years spent in postgraduate training, most of these graduates (with the exception of a few attorneys) are currently working within their respective professions.

Three-quarters of respondents holding teaching credentials as their highest degrees work as elementary and secondary school teachers, and earn the lowest salaries. Again this finding is consistent with the data on Table 9 and Appendix H, which indicate that school teachers earn about $12,000 less than the average annual salary of all respondents. Those respondents who hold teaching credentials but are not working as school teachers earn $29,231 as compared with $22,295 for secondary school teachers and $21,777 for elementary school teachers. The differential for men is especially high, $34,017 vs. $23,981.

There is little overall difference in the mean or median annual salaries earned by respondents holding baccalaureate, master's, or doctoral degrees. This finding most likely reflects a shorter time in the labor market for doctoral degree recipients, most of whom earned their degrees between 1979 and 1983. About half of doctoral degree recipients are employed by universities in teaching or research positions. Their average salary is $27,050; $21,938 for graduates in research or postdoctoral positions; $29,069 for those employed as assistant professors or lecturers. These salaries are considerably lower than those reported by PhDs working in industry or self-employed. Their annual salaries averaged $38,709, somewhat higher than salaries of MA and BA degree holders in similar positions. Three-quarters of the PhDs employed outside of higher education hold degrees in Engineering, Math/Physical Sciences, or Biological Sciences--areas in which candidates for the professoriate are becoming increasingly scarce.

Table 10 also indicates that female graduates across all degree categories earn lower salaries than males. Caution should be used in interpreting this finding, however, particularly because these women (most now in their early to mid thirties) are likely to have stopped out of the labor market to bear and raise children or to have made career choices compatible with those responsibilities. Tests for differences in mean salaries earned by men and women in each degree category show no statistically significant ($p < .05$) differences in the mean salaries of professional or doctoral degree holders based on gender, but significant differences exist between the earnings of men and women with BAs, MAs and teaching credentials.

The similarity in salaries of men and women with professional and doctoral degrees suggests that women who have invested considerable amounts of time and money in postgraduate education, and who command large salaries, face higher opportunity costs for leaving the labor market. Consequently, they may postpone child rearing or make the same career and family tradeoffs as their male counterparts. This supposition is consistent with the finding that almost all of the women in these degree categories were employed full-time at the time of the survey, as contrasted with slightly less than half of the women with BAs or teaching credentials.

One Year After Graduation

Although students choose to attend college for a variety of reasons, the cognitive skills they develop should help them to perform meaningful work after graduation. There are many components to employment opportunity for recent graduates besides job type and salary; these include the length of time it takes to secure employment, whether the work is in a field of choice, and if employment is related to major field of study.

Upon graduation, 58% of 1983 graduates accepted full-time employment; 88% of these graduates obtained jobs within four months of graduation. Table 11 below lists their initial career paths and mean annual salaries.

TABLE 11
INITIAL CAREER AREAS AND MEAN ANNUAL SALARIES OF
1983 GRADUATES EMPLOYED FULL-TIME

CAREER AREA	n	Percent	Cumulative Percent	Mean Annual Salary[1]
Scientific researcher or technician	214	21%	21%	$16,659
Engineering	176	18	39	26,685
Business managers, trainees, analysts	171	17	56	19,088
Retail sales staff (non-managerial)	65	6	62	14,049
Clerical, secretarial staff	50	5	67	13,953
Computer programmer, analyst	34	3	70	23,144
Unskilled worker	33	3	73	12,657
Administrator, analyst	25	2	75	19,280
Social, welfare worker	22	2	77	9,984
Farm, fishery or forest manager or worker	19	2	79	17,957
Skilled craftsman	19	2	81	18,337
Military officer	17	2	83	18,418
All Other Areas (24 occupations)	157	17	100	14,618

[1] Approximately 5% of respondents did not provide salary data.

Occupations in science, engineering and business account for 56% of all full-time jobs held by 1983 graduates. The largest group of graduates hold jobs as scientific researchers and technicians. Their areas of concentration include the biological sciences, chemistry, and plant science and viticulture. The second most popular career path is engineering. Jobs in electrical and computer engineering represent almost half of the full-time jobs held by 1983 Engineering graduates. In the third largest career area, business, the most frequently reported jobs are in technical sales and

trainees and analysts in banking, insurance and real estate. Appendix H lists the specific occupations and salaries of all 1983 graduates employed full-time. Appendix I displays these data by gender.

About three-quarters of 1983 graduates employed full-time work in private industry; the remaining graduates are employed by some level of government. Less than 2% of 1983 graduates are self-employed.

Many 1983 graduates were in a period of adjustment and transition at the time of the survey. Those with technical backgrounds in high demand by employers probably found their places in the working world quickly. Other graduates with general educations, or less certain career goals, may have accepted jobs more temporary in nature. The data in Table 11 and Appendix H indicate that about 1 in 6 graduates took jobs that do not traditionally require a college degree. These include clerical jobs; sales or service staff in retail stores, restaurants and hotels; and jobs as truckdrivers and couriers. Nevertheless, UC Davis graduates fare better in the labor market than baccalaureate recipients nationwide, according to American Council on Education estimates. Because the surplus of college graduates relative to the economy's demand for highly educated workers is likely to continue through 1995, one in four graduates will have to accept employment in a job not traditionally requiring a college education.[8]

Part of the success UC Davis graduates experience in this competitive job market may be attributable to the extensive opportunities they have for gaining work experience prior to graduation. The UC Davis Work Learn and Career Planning and Placement Center, together with certain academic departments, offers thousands of internships to undergraduates each academic year. Over half of 1983 graduates held at least one of these internships, and 88% of employed graduates report that this experience has been significant in their present careers.

The average annual salary of 1983 graduates employed full-time was $18,412. Women graduates earned 77% of the salaries of their male counterparts ($16,070 as compared with $20,904). This differential in salaries is larger than that found in the 1980 survey; at that time women graduates earned 81% of male salaries ($12,630 vs. $15,566).

Part of the difference in salaries stems from the disproportionate representation of men in engineering, the highest paying field for graduates. Twenty-nine percent of male graduates employed full-time are working as engineers as contrasted with 7% of female graduates; there are no differences in their salaries.

Excluding engineers, women earn 85% of the salaries reported by male graduates. This finding reflects what appear to be different initial career decisions made by these graduates. Twenty-one percent of female graduates work in jobs that do not require a college degree as compared with only 12% of male graduates. These jobs, predominately in retail sales, waitressing, clerical and secretarial work, pay among the lowest salaries earned by

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[8]American Council on Education, Policy Brief: Employment Prospects for College Graduates, November 1984, p. 6.

graduates. Although most women in these jobs report plans to attend graduate school at a later date, or are looking for other jobs, their initial career choices raise the question of whether they are acquiring the work experience or earning the incomes necessary to attain their future goals. Women respondents are also overrepresented in fields that require educated workers but traditionally pay low salaries, including social and welfare work and teaching in private schools.

Figure 1 (Page 16) illustrates the significant differences in earnings among graduates from different undergraduate fields of study. These differences reflect the variety of career paths followed by graduates from each field of study. For example, two occupations frequently chosen by Animal Science graduates are the Peace Corps and veterinary internships. These occupations provide valuable and appropriate work experience but pay among the very lowest salaries. In contrast, graduates of fields that provide training directly related to technical occupations, such as engineering, applied economics, mathematics and physical sciences, earn the highest salaries. These findings are consistent with those of past surveys.

Employability of recent graduates can also be measured by whether they are able to secure employment in their fields of choice. Findings from both the 1980 and 1984 surveys indicate that about three-quarters of UC Davis alumni (1976 = 76%, 1983 = 73%) are able to find work in their preferred fields upon graduation. Table 12 presents these data by undergraduate field of study.

TABLE 12
1983 GRADUATES EMPLOYED IN THEIR FIELDS OF CHOICE
BY FIELD OF STUDY
(in percent of graduates employed full-time)

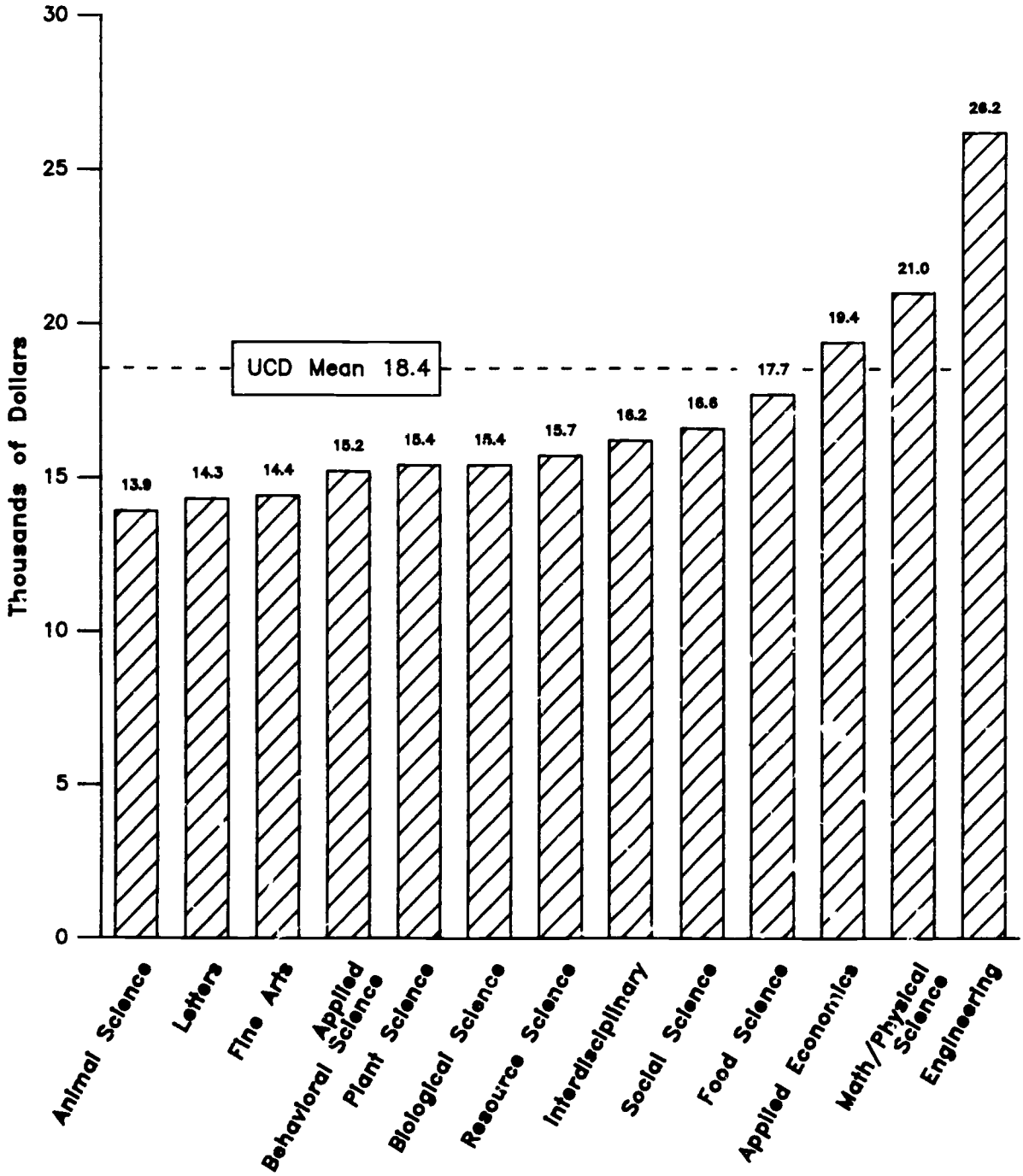
FIELD OF STUDY	n	Percent
Total[1]	**905**	**73%**
Engineering	186	96
Applied Economics	83	80
Math and Physical Sciences	31	80
Plant Science	32	78
Applied Behavioral Sciences	71	76
Food and Consumer Sciences	70	76
Resource Sciences	25	72
Animal Science	43	70
Fine Arts	13	69
Biological Sciences	130	62
Letters	40	58
Social Sciences	55	55
Interdisciplinary	63	54

[1]Does not include 10% of 1983 graduates who had not chosen a career field at the time of the survey.

FIGURE 1

Mean Annual Salary of 1983 Gradautes Employed Full-Time

-by Undergraduate Field of Study-



Graduates of the humanities, social sciences and biological sciences have the most difficulty finding employment in their chosen fields; graduates of engineering, applied economics, and mathematics and physical sciences experience the least difficulty. Approximately one in ten graduates who are working full-time have not chosen a career field. These findings are similar to those of earlier graduate surveys.

An additional dimension of the employment opportunities available to UC Davis graduates is their ability to secure employment related to their undergraduate training. Although a close relationship does not necessarily exist between occupations of recent graduates and their undergraduate majors, when asked how closely related they were, two-thirds of graduates described them as "highly" or "moderately" related. The data in Table 13 below show that answers to this question differed depending upon undergraduate field of study. Not surprisingly, academic fields that provide training for specific occupations in high demand are most likely to have respondents working in highly related jobs.

TABLE 13
RELATIONSHIP BETWEEN OCCUPATION AND UNDERGRADUATE MAJOR
BY FIELD OF STUDY FOR 1983 GRADUATES
(in percent of graduates employed full-time)

Relatedness of Occupations to Major:	n	High/Moderate	Slight	None
Total	**1006**	**65%**	**17%**	**18%**
Engineering	192	91	8	2
Food and Consumer Sciences	75	79	12	9
Resource Sciences	28	79	11	11
Plant Science	34	74	18	9
Math and Physical Sciences	35	72	14	14
Applied Economics	92	68	26	7
Animal Science	46	67	15	17
Applied Behavioral Sciences	75	65	16	19
Biological Sciences	145	61	15	23
Social Sciences	143	44	24	32
Interdisciplinary	73	41	25	36
Letters	52	35	25	40
Fine Arts	16	25	31	44

Graduates working in jobs not related or only slightly related to their majors offer a variety of reasons for doing so. About 15% report that they had never planned to take a closely related position over one-third found unrelated work and became interested in that field; another third would like related work but have been unable to find it.

Past research[9] has shown that preparation for a career is only a minor consideration in students' decisions to attend UC Davis, yet a majority of alumni consistently report that their undergraduate studies have prepared them "more than adequately" for their current employment On a scale of 1 (very well prepared) to 5 (poorly prepared), the mean rating for career preparation reported by 1983 graduates was 2.3. Among graduates working in jobs highly or moderately related to their undergraduate majors, the mean rating was slightly higher, 2.1.

[9]The Class of 1980 as Entering Freshmen and The College Selection Process of Freshmen Admitted to UC Davis.

IMPRESSIONS OF UC DAVIS

In addition to reporting career and educational experiences, 1983 graduates were asked for reactions to their college experience: What was the nature and frequency of their interactions with faculty in their undergraduate majors? How satisfied were they with the accessibility and helpfulness of these faculty? What is their reaction to their overall experience at UC Davis? And what, if anything, would they do differently if they could start college over again?

Student Faculty Relationships

It is frequently suggested that emphasis on research in a university interferes with effective undergraduate education because faculty pay insufficient attention to the needs of undergraduates. This does not appear to be the case at UC Davis. Although the campus has a reputation as a leading research institution, recent alumni report high levels of interaction and satisfaction with the faculty in their undergraduate majors, as seen in Table 14.

TABLE 14
STUDENT-FACULTY INTERACTION AT UC DAVIS
IMPRESSIONS OF 1983 GRADUATES
(in percent of graduates)

Student-Faculty Activity	Frequency of Interaction Very Often	Occasionally	Never
Meet during Office Hours	34%	63%	4%
Seek Academic Advice	25	62	13
Talk Outside of Class	24	58	18
Talk about Career Plans	15	61	24
Work on Research	18	26	56
Talk about Personal Matters	4	28	68

Over three-quarters of respondents met with faculty during office hours, had discussions with faculty outside of class, discussed career plans, and sought academic advice from faculty. Close to half report working with faculty members on research; one-third spoke with faculty about personal matters. Women and men report the same levels of interaction with faculty in all activities.

There were significant differences ($p < .05$) in levels of student-faculty interaction based on whether or not respondents were currently enrolled in graduate school. Respondents enrolled in a postgraduate program

report meeting more frequently with faculty during office hours and discussing career plans with them more often. Most notably, 53% of respondents in graduate school had worked with faculty on research projects as contrasted with 40% of those respondents who were not continuing their studies.

Table 15 below indicates that graduates in general were satisfied with the faculty in their undergraduate majors. Overall, only 8% of respondents were dissatisfied with the accessibility and helpfulness of faculty in their undergraduate majors.

TABLE 15
1983 GRADUATES' SATISFACTION WITH MAJOR FACULTY
(in percent of graduates)

Satisfied or Very Satisfied	Neutral or Mixed Feelings	Dissatisfied or Very Dissatisfied
65%	27%	8%

On a scale of 1 (very satisfied) to 5 (very dissatisfied), the mean rating of all graduates (n = 1,707) was 2.21. Figure 2 (shown on page 21) plots the mean satisfaction rating and standard deviation for each major with at least 10 respondents. Although these data show considerable variation about the campus mean, respondents indicate overall positive feelings about faculty in every major.

It appears that regardless of their current activities, 1983 alumni have positive feelings about their major faculty. Nevertheless, many respondents, when asked what changes they would make in their undergraduate education, said they wish they had developed closer relationships with faculty. As one female graduate from Human Development put it:

> I'd make more of an effort to get to know my professors more personally. My first two years, I didn't do that; when I did, I got much more out of my experience.

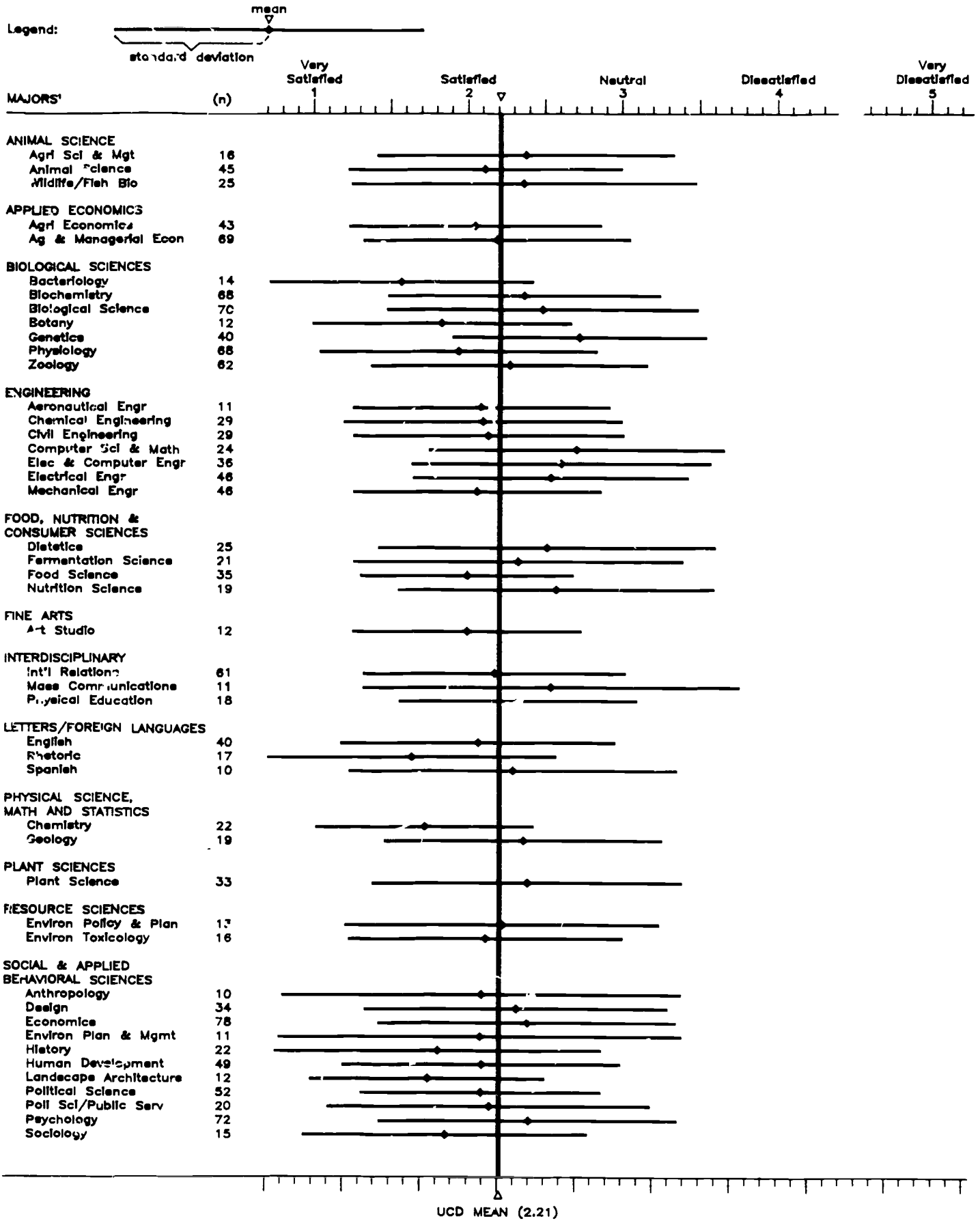
This feeling was echoed particularly by graduates who did not take sufficient opportunity to meet with faculty. In the words of a male graduate from Genetics:

> I almost never went to office hours, and I think I missed out by not getting to know some of the good professors.

Figure 2

SATISFACTION WITH MAJOR FACULTY: MEAN RATINGS AND RANGE FOR 1983 GRADUATES

QUESTION: Overall, how satisfied were you with the accessibility and helpfulness of the faculty in your undergraduate major?



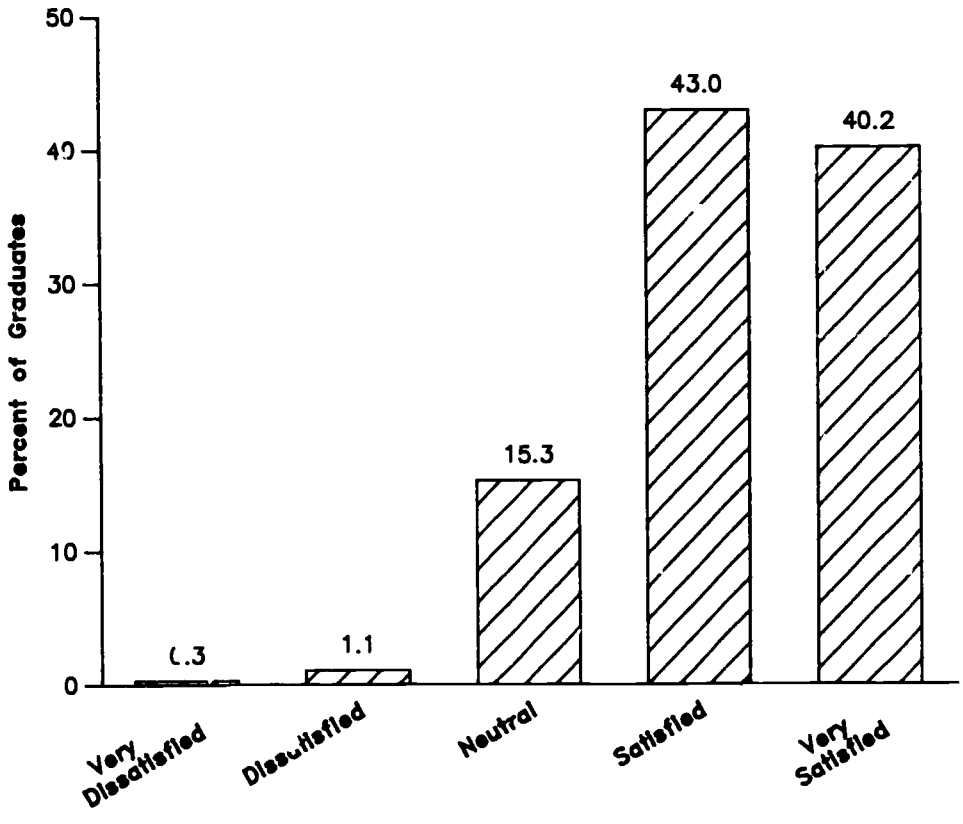
¹Does not include individual majors or majors with fewer than 10 respondents.

Graduates' Reactions to Their Undergraduate Education

Alumni ratings provide one means of evaluating the quality of undergraduate education. As discussed in the sections on postgraduate education and careers, 1983 alumni report that their years at UC Davis provided them with the basic tools they need to meet their educational and career aspirations. Figure 3 below illustrates that, in general, these graduates are enthusiastic about their years at UC Davis. Over 80% of the respondents are satisfied or very satisfied with their undergraduate experience.

Figure 3

Distribution of Satisfaction With Undergraduate Experience



Of course this finding does not mean that graduates would not make some changes, given the advantage of their present knowledge and experience, if they were considering college today. On the contrary, graduates reported a myriad of individual adjustments, although no single one or set would be made by a majority of graduates. Table 16 (shown on page 23) lists some of the adjustments graduates would make.

TABLE
1983 GRADUATES' REFLECTIONS ON THEIR UNDERGRADUATE EDUCATION
(in percent of graduates)

If you were considering college today with the advantage of your present knowledge and experience, would you:

	NO	YES
Change Your Major?	77%	23%
Change Schools?	88	12
Not Attend College?	100	--
Take a Broader Range of Courses?	76	24
Take a More Specialized Course of Study?	84	16
Take Greater Advantage of Internships?	53	47

If graduates were able to repeat their college years, only 12% would choose another institution. Most of the respondents who would study elsewhere indicate an interest in majors, such as business and nursing, not offered by UC Davis. All graduates would choose again to attend college.

Many respondents indicate that they would adjust their course of study by changing majors and by narrowing or broadening the range of courses they took. These graduates were likely to be working in full-time jobs and to hold degrees in the humanities and social and applied behavioral sciences (excluding applied economics). Many expressed difficulty in making the transition from college to career. Their current frustrations were summed up by one graduate who said:

> We were educated, not trained. Employers want trained college students.

Overall these graduates are satisfied with their experience at UC Davis, but wonder if a college diploma should not represent more than an education. From a graduate of International Relations:

> I enjoyed my major, I learned a lot, but unfortunately, I'm not terribly employable. I'm not really sure about any changes, but it's frustrating to think I spent 4 1/2 years at Davis and only have a diploma to show for it.

Yet many graduates from these disciplines, facing the same job market constraints, have different expectations of their college experience. As a graduate from Political Science, temporarily working as a real estate agent, said:

> My education at Davis was not very practical; however, in my opinion, that is not the purpose of college. The real purpose of college is to make you think! Davis made me do that.

CONCLUSION

Because few students can afford the luxury of pursuing a college degree purely for its intellectual rewards, they must consider how the time, effort, and capital invested in their undergraduate experience will serve the attainment of their education and career goals. The findings in this report provide one perspective of how well UC Davis prepares students for postgraduate education and careers. This information corroborates findings from earlier research on UC Davis graduates and provides prospective students, parents, and the University community with a positive picture of graduates' advanced degree attainment, employment opportunities, and satisfaction with their undergraduate experience.

Most students coming to UC Davis intend to continue their education beyond a baccalaureate degree. Survey results in 1980 indicated that approximately two-thirds of 1973 graduates had taken at least one graduate level course. This report indicates that graduates remain seriously committed to pursuing graduate work; 58% of the 1973 graduates completed at least one advanced degree and 9% are currently enrolled in degree or credential programs. As reported in each of the two previous alumni studies, about one-third of graduates enroll in advanced degree programs within one year of graduation.

Graduates who choose full-time employment upon graduation find jobs quickly, and a large majority find work in their fields of choice. The career paths chosen by 1983 graduates are similar to those of 1976 and 1979 graduates one year out of college. The three primary career paths for these graduates are in science fields, business or engineering. These fields have been consistently the top three employment areas for recent graduates. Eleven years after graduation, when students have had the opportunity to earn postgraduate credentials and degrees, education and the professions join business as the most popular employment fields, followed by engineering and science.

Although some recent graduates accept positions that traditionally have not required a college degree, the numbers who do so are less than those predicted for baccalaureate degree holders nationwide. An examination of career paths of graduates seven and eleven years after graduation suggests that these kinds of jobs do not represent the long run career patterns of UC Davis graduates.

Recent alumni share a unique perspective from which to evaluate their educational experience. They are in their first year of a career or graduate program at the time of the survey. The months since completing their baccalaureates have for the most part been spent adjusting to new activities and responsibilities. Their ability to perform these new activities is no doubt fresh in their minds when they respond to the survey. For these reasons, it is particularly heartening that graduates report their academic and employment preparation to be more than adequate and their undergraduate experience satisfactory.

SURVEY OF GRADUATES

University of California, Davis

17

A. POSTGRADUATE EDUCATION

1. Have you taken any graduate level courses since receiving your bachelor's degree? 5
( )yes ( )no

2. Are you currently enrolled in or have you completed a postgraduate program which will award you a degree, license or other credential? 6 7-8 9-10 11 13
( )yes ( )no **(If no, skip to question 4.)**

Degree, license or credential	Institution	Major field	Date awarded or expected	
			mo.	yr.

14 15

3. How well did UC Davis prepare you for your postgraduate education or program? 16
( )very well ( )more than adequately ( )adequately ( )less than adequately ( )poorly ( )not applicable

4. Do you plan to seek any additional degrees or credentials? 17
( )yes
( )maybe } Subject area: _____ Degree type: _____ 18-19 20-21
( )no

B. CURRENT EMPLOYMENT

IF YOU ARE NOT CURRENTLY EMPLOYED, PLEASE CHECK HERE ( ) AND SKIP TO QUESTION 14 22

5. What is your current occupation? (Use a descriptive title; e.g., computer programmer, graphic artist, secretary, law clerk, real estate agent.) 23-25

_____

6. Are you presently employed ( )full-time or ( )part-time? 26

7. Is your current employment part of a graduate training program? ( )yes ( )no 27

8. In what type of organization are you employed? 28
( )public or governmental ( )private ( )self-employed

9. What is the nature of the organization's activity? 29 30
(e.g., architectural consulting, electronics manufacturing, education)

_____

10. What is your own ANNUAL salary (to the nearest $100)? _____ 31 33

11. Is this position in the career field of your choice? 34
( )yes ( )no ( )I have not chosen a career field

12. Overall, how well did UC Davis prepare you for your present occupation? 35
( )very well ( )more than adequately ( )adequately ( )less than adequately ( )poorly

13. a. How closely related is your current occupation to your major at UC Davis? 36
( )highly related ( )moderately related ( )slightly related ( )not related

37

b. If you checked slightly related or not related, which of the following statements apply to you? **(Check all that apply.)** 38 39 40

( )Never planned to take a closely related job
( )Prefer work not closely related
( )Tried closely related employment, but did not like it
( )Found work unrelated to major and became interested
( )Joined family business or firm
( )Found a better-paying job
( )Found a job that offers a better chance of career advancement
( )Promoted out of closely related job
( )Wanted part-time work, flexible hours
( )Wanted to work at home
( )On temporary assignment (political appointment, Vista, Peace Corps, USIA, foreign service, missionary work, etc.)
( )Related jobs not available where I live and do not want to move
( )In the military
( )Could not get a closely related job, but would prefer one
( )Limited in job selection by situation of spouse, family responsibilities
( )Jobs related to my major are scarce
( )Other, specify _____

41 42 43 44 45 46 47 48 49 50 51 52 53

14. Are you actively searching for employment? 54
( )no ( )yes, full-time employment ( )yes, part-time employment

C. THE COLLEGE EXPERIENCE

15. How satisfied are you with your total undergraduate experience at UC Davis? 55
( )very satisfied ( )satisfied ( )neutral or mixed feelings ( )dissatisfied ( )very dissatisfied

16. a. If you were considering college today, with the advantage of your present knowledge and experience, would you: **(Check all that apply.)** 56

( )Change your major
To: _____
( )Change to another institution
To: _____
( )Not attend college
( )Take a broader range of courses
( )Take a more specialized course of study
( )Take greater advantage of internships in your field
( )Take more individual study courses in your major (198, 199, etc.)
( )Do it all the same way

57-59 60 61-62 63 64

65

b. Would you make any other changes? Specify. 66 67 68 69-70

17. a. What were your three primary sources of academic advice while you were an undergraduate at UC Davis? (e.g., Dean's Office, faculty members, staff advisors in your academic department, Peer Academic Advisors, First Resort, Counseling Center, Pre-professional advising)

Sources of Advice **(List)**	Frequency of Use **(Check one on each line.)**				
	very often	often	occasionally	never	2/12
_____	( )	( )	( )	( )	3
_____	( )	( )	( )	( )	4 5 6
_____	( )	( )	( )	( )	7 8 9

b. All in all, how satisfied or dissatisfied were you with the amount and quality of academic advice you received? 10 11

18. While you were an undergraduate at UC Davis, how often did you do each of the following? Use the following scale.
1=very often, 2=often, 3=occasionally, 4=never

_____Meet with faculty during office hours
_____Talk informally with faculty outside of class
_____Talk to faculty about career plans
_____Work on a research project with a faculty member
_____Talk to faculty about personal matters
_____Seek academic advice from faculty
_____Seek academic advice from the Dean's Office in your college

19. How satisfied were you with the accessibility and helpfulness of the faculty in your undergraduate major?
( )very satisfied ( )satisfied ( )neutral or mixed feelings ( )dissatisfied ( )very dissatisfied

D. USE OF UNIVERSITY SERVICES

20. Which of the following sources did you use to obtain your first full-time job after college? **(Check all that apply.)**

( )UC Davis Work-Learn Career Planning and Placement Office
( )UC Davis faculty referral
( )public employment agency
( )private employment agency
( )help-wanted ad
( )direct personal application
( )word-of-mouth
( )other, specify _____

21. How long did you actively search for your first full-time job after college?
( )Worked in the job prior to leaving college
( )Obtained the job prior to leaving college
( )Less than two months
( )Two to four months
( )Five to six months
( )Over six months

22. Did you hold one or more internships while you were an undergraduate at UC Davis?
( )yes ( )no

IF YES: How many internships did you have? _____
How were they arranged? **(Check all that apply.)**

( )through Work-Learn Career Planning and Placement
( )through an academic department
( )arranged independently of UC Davis
( )other, specify _____

23. Indicate how significant each of the following forms of COLLEGE work experience has been in your present employment or graduate program. Use the following scale.
1=very significant, 2=some significance, 3=little significance, 4=not applicable

_____ on-campus internship
_____ internship off-campus
_____ on-campus job held during school year
_____ off-campus job held during the school year
_____ summer job

24. Did you receive Financial Aid in the form of student loans (e.g., GSL, NDSL, Regents Loan) while attending UC Davis as an undergraduate?
( )yes ( )no **(If no, skip to question 25.)**

a. What was your total undergraduate student loan indebtedness when you graduated?
_____ under $2,000
_____ $2,000--$3,999
_____ $4,000--$5,999
_____ $6,000--$7,999
_____ over $8,000
_____ not sure

b. How do you consider your monthly repayments?
( ) not difficult to make
( ) somewhat difficult to make
( ) difficult to make
( ) impossible to make
( ) not applicable (still in graduate school, etc.)

E. BACKGROUND INFORMATION

25. When did you first enter UC Davis as an undergraduate? _____ _____ (mo. / yr.) 43-45

26. What was your class level when you first entered UC Davis? 46
( )freshman ( )sophomore ( )junior ( )senior

27. What was your school immediately prior to UC Davis? **(Exclude summer school.)** 47
( )High School
( )California Community College
( )Other University of California campus
( )California State College/University
( )Private California College/University
( )Out-of-State College/University

28. Did you attend UC Davis as a student in the Educational Opportunity Program (EOP)? 48
( )yes ( )no ( )not sure

29. How were you admitted to UC Davis? 49
( )regular admissions (met all entrance requirements)
( )Special Action admissions (missing some requirements)
( )not sure

30. a. While you were an undergraduate at UC Davis did you interrupt your academic year (fall through spring) for a quarter or longer for any reason? **(Exclude summers.)** 50
( )yes ( )no

b. If yes, what was the one main reason you "stopped out"? 51 52

31. What was your undergraduate major at UC Davis? _____ 53-55

32. From which college did you graduate? 56
( )Agricultural & Environmental Sciences ( )Letters & Science ( )Engineering

33. When did you receive your bachelor's degree? _____ _____ (mo. / yr.) 57 59

34. What was your overall undergraduate GPA at UC Davis? _____ 60-62

35. Gender: ( )female ( )male 63

36. Present age _____ 64-65

37. Please check the ethnic category to which you belong. 66
( )American Indian/Native American
( )Asian-American
( )Black/Afro-American
( )Chicano/Mexican-American
( )Latino/Other Spanish-American
( )Filipino/Pilipino
( )White/Caucasian
( )Other, specify _____

****

The information given below will not be associated with your answers to previous questions in any way.

****

38. What is the name and zip code of the organization for which you work? (This information is used to advise UC Davis students about firms that employ UC Davis graduates.)

_____ Name of firm _____ Zip code

39. Please help us avoid sending you another set of materials by printing your name below. It will then be removed from the roster.

_____ Name (Please Print)

8/84

THANK YOU FOR YOUR COOPERATION

UC DAVIS SURVEY OF GRADUATES

1-4
5-7

1. Undergraduate major _____ 2. Gender ( )male ( )female 8

3. Undergraduate college ( )Ag & Env. Sci. ( )Engineering ( )Letters & Sci. 9

4. Are you enrolled in or have you completed a postgraduate program for which you will be awarded a degree, license or credential? 10
( )yes ( )no **(If no, skip to question 5)** 11-12
13-14

Degree, license or credential	Institution	Major field	Date awarded or expected	
_____	_____	_____	mo.____yr.____	15-17 18-20 21-22
_____	_____	_____	mo.____yr.____	23-24 25-27 28-30

5. Are you currently ( )employed full-time ( )employed part-time ( )not employed? 31

6. Is your current employment part of a graduate training program? ( )yes ( )no 32

7. What is your current occupation?
(e.g., graphic artist, secretary)_____ 33-35

8. Name of organization for which you work_____

9. What is the nature of the organization's activity?
(e.g., architectural consulting, electronics manufacturing, education) 36-37

_____

10. What is your own ANNUAL salary (to the nearest $100)? _____ 38-40

11. Name _____

THANK YOU FOR YOUR COOPERATION **(Please detach and return)**

APPENDIX C
NUMBER OF RESPONDENTS BY UNDERGRADUATE MAJOR
1973 AND 1983 GRADUATES

MAJOR	1973	1983
ANIMAL SCIENCES		
- Agri Sci & Mgmt	3	16
- Animal Behavior	1	0
- Animal Science	23	45
- Avian Science	0	2
- Pre Vet Med	12	0
- Wildlife/Fish Bio	25	26
APPLIED ECONOMICS		
- Agri Business Mgmt	1	0
- Agri Economics	10	43
- Ag Econ & Bus Mgmt	4	3
- Ag & Managerial Econ	0	71
- Dev, Res, & Con Econ	1	1
BIOLOGICAL SCIENCES		
- Anatomy	1	0
- Bacteriology	11	15
- Biochemistry	19	69
- Biological Science	82	71
- Botany	5	12
- Genetics	7	40
- Microbiology	1	0
- Physiology	21	60
- Zoology	57	63
ENGINEERING		
- Engr (unspecified)	2	0
- Aeronautical Engr	0	11
- Agri Engineering	3	6
- Chem Engineering	7	29
- Civil Engineering	33	29
- Comp Sci & Math	0	24
- Elec & Comp Engr	0	37
- Electrical Engr	27	46
- Elec/Mats Sci & Engr	0	2
- Mechanical Engr	26	46
- Mech/Mats Sci & Engr	0	7
FINE ARTS		
- Art	26	2
- Art History	4	4
- Art Studio	10	12
- Dramatic Art	9	8
- Music	2	6
FOOD, NUTRITION AND CONSUMER SCIENCES		
- Community Nutrition	0	6
- Consumer Food Sci	4	4
- Dietetics	15	25
- Fermentation Sci	8	21
- Food Biochemistry	1	2
- Food Science	13	35
- Food Service Mgmt	2	0
- Home Economics	30	6
- Nutrition Science	7	19
- Textiles	8	0
- Textiles & Clothing	2	8
- Textile Science	5	4
INTERDISCIPLINARY		
- American Studies	5	1
- Comp Literature	1	0
East Asian Studies	2	1
INTERDISCIPLINARY (cont.)		
- Education	1	0
- Humanities	1	0
- Individual	23	24
- Int'l Relations	12	61
- Linguistics	1	5
- Mass Communication	0	11
- Physical Education	22	19
- Religious Studies	2	1
LETTERS/FOREIGN LANGUAGES		
- English	52	41
- English-Teaching	0	1
- English-Writing	1	2
- French	13	7
- German	6	2
- Italian	0	2
- Philosophy	6	6
- Rhetoric	6	17
- Russian	0	1
- Russian Lit & History	2	0
- Spanish	18	10
PHYSICAL SCIENCE MATH AND STATISTICS		
- Chemistry	11	22
- Geology	7	19
- Math	28	9
- Physics	7	8
- Statistics	0	6
PLANT SCIENCES		
- Agrarian Studies	1	2
- Entomology	1	8
- Plant Pathology	1	0
- Plant Science	10	33
- Range/Wildlands Sci	0	6
RESOURCE SCIENCES		
- Atmospheric Sci	3	7
- Environ Policy & Plan	0	13
- Environ Toxicology	0	16
- Int'l Agri Develop	0	3
- Renew Nat Resources	15	4
- Resource Science	1	3
- Soil & Water Sci	7	8
SOCIAL AND APPLIED BEHAVIORAL SCIENCES		
- Agri Education	0	4
- Anthropology	15	10
- Appl Behavior Sci	15	8
- Child Development	61	0
- Design	21	34
- Economics	43	78
- Envir Plan & Mgmt	18	11
- Geography	10	6
- History	51	22
- Human Development	4	49
- Landscape Architecture	0	12
- Political Science	40	52
- Poli Sci/Public Serv	3	20
- Psychology	77	72
- Sociology	33	15
- Soc/Crim Justice	0	1

APPENDIX D

SURVEY METHODS

In May 1984, questionnaires were mailed to all UC Davis bachelor's degree recipients from March, June, September, and December 1983. Questionnaires for graduates residing outside of the United States were sent to parents' addresses or to secondary addresses where available. A second set of surveys was sent to all but approximately 200 graduates from calendar year 1973. These latter alumni (7% of the 1973 class) had incorrect or foreign addresses or were deceased. Addresses were obtained from the Alumni Development Record System.

Approximately two weeks after the first mailing, a post card reminder was sent to graduates from both classes. This effort was followed by a set of questionnaires mailed only to nonrespondents about one month after the original mailing. Responses were accepted until September 30, 1984. There were 1,185 and 1,722 usable questionnaires returned from the 1973 and 1983 graduates, representing 48% and 60% of each group respectively.

Although a census of each class of graduates was intended, the elimination of certain graduates because of incorrect or foreign addresses created an unintentional sample and raises the possibility of sampling bias. This type of bias is a minor concern for recent alumni, less than 1% of whom were eliminated from consideration, but may be a potential source for error in interpreting the responses of 1973 graduates. It is not possible to estimate if or how the 200 1973 graduates eliminated from the census differ from those surveyed.

A second source of error occurs when survey respondents differ systematically from nonrespondents. One method of checking for this kind of response bias is to compare several respondent characteristics, such as those on Table D-1 below with characteristics of 1983 and 1973 graduates. This comparison indicates that there are no major differences between respondents and nonrespondents for either class with respect to gender and field of study. Respondents to the 1983 survey are also comparable to graduates on the variables of ethnicity and graduating grade point average.

Despite comparability of respondents to graduates on certain demographic variables, it remains possible that respondents differ from graduates in attitudes, perceptions or experiences. Although the response rates from these surveys are high for this type of research, caution should be used in extrapolating the results contained in this report to an entire graduating class.

TABLE D-1
CHARACTERISTICS OF SURVEY RESPONDENTS
AND THE GRADUATES OF 1983 AND 1973
(in percent of students)

CHARACTERISTIC	1983 Respondents (n=1722)	1983 Graduates[1] (n=2767)	1973 Respondents (n=1185)	1973 Graduates[1] (n=2680)
Gender:				
Female	54%	52%	52%	47%
Male	46	48	48	53
Ethnicity:				
White	81	80	NA	NA
Asian	11	11	NA	NA
SAA	6	7	NA	NA
Other	2	2	NA	NA
Field of Study:				
Animal Science	5	5	5	5
Applied Economics	7	7	1	1
Biological Sciences	20	18	17	20
Engineering	14	14	8	7
Food, Nutrition & Consumer Sciences	8	7	8	6
Fine Arts	2	2	4	5
Interdisciplinary	7	8	6	5
Letters	5	5	9	9
Mathematics and Physical Sciences	4	4	5	4
Plant Science	3	3	1	2
Resource Sciences	3	4	2	3
Social and Applied Behavioral Sciences	23	23	33	33
Mean Graduating GPA	3.11	3.02	NA	NA

NA = Not Available

[1]Characteristics of graduates in calendar years 1973 and 1983 were taken from an administrative research file. Statistics may differ somewhat from official University statistics due to multiple degrees and other factors.

APPENDIX E
POSTGRADUATE DEGREES COMPLETED BY FIELD OF STUDY AND MAJOR
1973 GRADUATES
(in percent of students)

FIELD OF STUDY/ MAJOR[1]	n	Graduates with Degree
TOTAL	**1183**	**58%**
ANIMAL SCIENCE	64	63%
- Animal Scierce	23	61
- Wildlife/Fish Bio	25	56
APPLIED ECONOMICS	16	38
- Agri Economics	10	60
BIOLOGICAL SCIENCES	204	71
- Bacteriology	11	64
- Biochemistry	19	79
- Biological Science	82	71*
- Physiology	21	81*
- Zoology	57	65
ENGINEERING	98	40
- Civil Engineering	33	42
- Electrical Engr	27	26*
- Mechanical Engr	26	39
FINE ARTS	51	57
- Art	26	69
- Art Studio	10	20*
FOOD, NUTRITION AND CONSUMER SCIENCES	95	58
- Dietetics	15	67
- Food Science	13	39
- Home Economics	30	90*
INTERDISCIPLINARY	70	61
- Individual	13	69
- Int'l Relations	12	42
- Physical Education	22	82*
LETTERS/FOREIGN LANGUAGES	104	66%
- English	52	67
- French	13	69
- Spanish	18	67
PHYSICAL SCIENCE MATH AND STATISTICS	53	72
- Chemistry	11	64
- Math	28	75
PLANT SCIENCES	13	39
- Plant Science	10	30
RESOURCE SCIENCES	25	44
- Renew Nat Resources	15	13*
SOCIAL AND APPLIED BEHAVIORAL SCIENCES	390	52
- Anthropology	15	68
- Applied Behav Sci	15	68
- Child Development	61	43*
- Design	21	29*
- Economics	43	61
- Envir Plan & Mgmt	18	28*
- Geography	10	50
- History	51	63
- Political Science	40	50
- Psychology	77	60
- Sociology	33	42

* Indicates degree completion for graduates of this major is significantly ($p < .05$) higher or lower than that of all respondents.

[1] Fields of study include all respondents; individual majors are listed if they have 10 or more respondents.

APPENDIX F

ADVANCED DEGREE FIELDS BY GENDER
1973 GRADUATES
(in percent of students with advanced degrees)

Advanced Degree Field[1]	Male (n=373)	Female (n=362)	Total (n=735)
Education	8%	28%	18%
Human Health	18	12	15
Business	11	10	11
Social Science	7	14	10
Law	11	4	7
Fine Arts/Letters	4	9	7
Biological Science	9	4	7
Engineering	11	1	6
Animal Health	7	3	5
Food, Nutrition Science	1	9	5
Physical Science	4	1	3
Agriculture	5	1	3
Math/Computer Science	2	3	2
Other	2	1	1

[1]Field of highest degree earned.

APPENDIX G
POSTGRADUATE DEGREES IN PROGRESS BY FIELD OF STUDY AND MAJOR
1983 GRADUATES
(in percent of students)

FIELD OF STUDY/ MAJOR[1]	n	Degrees in Progress
TOTAL	**1696**	**35%**
ANIMAL SCIENCE	88	33%
- Agri Sci & Mgmt	16	31
- Animal Science	44	41
- Wildlife/Fish Bio	26	23
APPLIED ECONOMICS	114	25
- Agri Economics	41	37
- Ag & Managerial Econ	69	17*
BIOLOGICAL SCIENCES	338	50
- Bacteriology	15	40
- Biochemistry	39	46*
- Biological Science	71	48*
- Botany	12	58
- Genetics	40	53*
- Physiology	68	59*
- Zoology		
ENGINEERING	231	22
- Aeronautical Engr	11	18
- Chemical Engineering	28	18
- Civil Engineering	28	36
- Comp Sci & Math	23	13*
- Elect & Comp Engr	35	9*
- Electrical Engr	45	20*
- Mechanical Engr	46	33
FINE ARTS	32	28
- Art Studio	12	25
FOOD, NUTRITION AND CONSUMER SCIENCES	125	32
- Dietetics	23	61*
- Fermentation Sci	21	19
- Food Science	34	24
- Nutrition Science	19	42
INTERDISCIPLINARY	120	34%
- Individual	24	46
- Int'l Relations	58	21
- Mass Communications	11	36
- Physical Education	19	53
LETTERS/FOREIGN LANGUAGES	89	38
- English	41	34
- Rhetoric	17	41
- Spanish	10	50
PHYSICAL SCIENCE MATH AND STATISTICS	63	38
- Chemistry	22	46
- Geology	19	26
PLANT SCIENCES	49	18
- Plant Science	33	15*
RESOURCE SCIENCES	54	24
- Envir Policy & Plan	13	15
- Envir Toxicology	16	31
SOCIAL AND APPLIED BEHAVIORAL SCIENCES	393	36
- Anthropology	10	20
- Design	34	12*
- Economics	78	31
- Envir Plan & Mgmt	11	0*
- History	22	50
- Human Development	49	49*
- Landscape Archit	12	8
- Political Science	51	47
- Poli Sci/Public Serv	20	40
- Psychology	72	40
- Sociology	15	40

* Indicates postgraduate enrollment for graduates of this major is significantly ($p < .05$) higher or lower than that of all respondents.

[1]Fields of study include all respondents; individual majors are listed if they have 10 or more respondents.

APPENDIX H

OCCUPATIONS AND MEAN ANNUAL SALARIES OF 1973 AND 1983 GRADUATES WORKING FULL-TIME

Occupation	Graduates of 1973 n	Graduates of 1973 Salary[1]	Graduates of 1983 n	Graduates of 1983 Salary
Accountant, auditor	9	$28,929	11	$19,[illegible]
Administrator, analyst (government)	27	33,632	25	19,280
Architect	3	18,500	3	13,200
Artist (painting, sculpture, etc.)	1	12,000	-	---
Athlete, other sports occupation	4	24,100	5	13,200
Bookkeeper	4	18,325	8	13,125
Business:				
buyer, purchasing agent	6	34,067	10	16,830
credit management, budget	6	40,400	7	14,129
finance, insurance, real estate	36	37,878	53	18,689
general management	62	61,400	25	20,908
public relations, advertising	9	29,489	15	16,360
technical sales	38	38,165	61	20,307
Chiropractor	1	30,000	-	---
Clergy, religious worker	5	21,450	3	12,500
Commercial artist, designer	14	22,470	15	14,929
Computer programmer, analyst	24	31,387	34	23,144
Clerical, secretarial staff	14	20,400	50	13,953
Dentist	19	57,821	-	---
Economist	5	32,200	4	19,450
Education:				
administrator	3	32,500	-	---
postsecondary	26	27,050	-	---
secondary	45	22,295	9	14,143
elementary	37	21,777	10	14,133
other	12	23,290	8	8,988
Engineering:				
aeronautical	-	---	10	23,400
chemical	4	36,600	20	25,545
civil	31	39,413	22	24,823
electrical, computer	22	43,709	83	28,236
mechanical	14	39,314	24	25,857
other	19	47,645	17	26,106
Farm, ranch, fisheries, forest manager	25	35,526	19	17,957

Occupation	Graduates of 1973 n	Graduates of 1973 Salary	Graduates of 1983 n	Graduates of 1983 Salary
Landscape architect, designer	2	$28,500	13	$13,970
Lawyer	43	43,706	-	---
Librarian, archivist	8	23,500	4	13,100
Mathematician, statistician	1	---	-	---
Medical, dental technologist	21	28,759	9	11,671
Military Officer	7	29,333	17	18,4[illegible]
Nurse	4	28,100	1	20,000
Optometrist	2	30,000	-	---
Paralegal	2	18,500	8	16,933
Performing artist, musician, entertainer	-	---	1	22,000
Personnel, human resources	13	35,855	9	19,575
Pharmacist	3	44,700	-	---
Physical therapist	6	34,800	4	11,650
Physician	35	65,864	-	---
Podiatrist	1	25,000	-	---
Police, fire	10	28 [illegible]	5	20,220
Psychologist	7	27,[illegible]3	-	---
Public Health Official	6	30,920	2	20,600
Recreation worker, tour guide	1	28,000	5	10,980
Resource, urban planner	8	30,625	3	18,100
Retail Sales	7	21,167	65	14,049
Science fields:				
chemist, physicist	12	33,800	41	19,870
resource scientist	9	28,889	18	17,867
food, nutrition, textile scientist	17	33,043	27	16,946
plant scientist (includes winemaker)	19	28,638	49	16,823
biological scientist	23	27,214	67	14,403
animal scientist	6	24,280	12	15,218
Skilled craftsman	16	30,907	19	18,337
Small Business Owner	11	34,422	-	---
Social, welfare, worker (includes Peace Corps)	24	23,761	22	9,984
Unskilled worker	3	26,133	33	12,657
Veterinarian	28	43,923	-	---
Veterinary assistant	2	15,500	10	11,467
Writer, journalist	4	25,825	7	11,814

[1]Because of incomplete data for some cases, the n for salary data may be smaller than that shown on the table.

APPENDIX I

OCCUPATIONS AND MEAN ANNUAL SALARIES OF 1983 GRADUATES WORKING FULL-TIME BY GENDER

Occupation	Males n	Males Salary	Females n	Females Salary	Occupation	Males n	Males Salary	Females n	Females Salary
Accountant, auditor	5	$18,660	6	$19,533	Farm, ranch, fisheries, forest manager	11	$22,211	8	$12,486
Administrator, analyst (government)	7	18,471	18	19,594	Landscape architect, designer	8	14,583	5	13,050
Architect	1	10,000	2	14,800	Librarian, archivist	-	---	4	13,100
Athlete, other sports occupation	4	14,400	1	9,600	Mathematician, statistician	-	---	-	---
Bookkeeper	1	15,000	7	12,857	Medical, dental technologist	4	13,625	4	9,067
Business:					Military Officer	16	19,194	1	6,000
Buyer, purchasing agent	3	18,667	7	16,043	Nurse	-		1	20,000
credit management, budget	2	14,400	5	14,020	Paralegal	3	13,000	5	18,900
finance, insurance, real estate	21	22,605	32	16,124	Performing artist, musician, entertainer	1	22,000	-	---
general management	11	24,255	14	18,279	Personnel, human resources	2	24,100	7	18,067
public relations, advertising	2	21,500	13	15,569	Physical therapist	2	12,750	2	10,550
technical sales	25	24,456	36	17,256	Police, fire	4	20,025	1	21,000
Clergy, religious worker	-	---	3	12,500	Public health official	2	20,600	-	---
Commercial artist, designer	1	15,000	14	14,923	Recreation worker	3	12,967	2	8,000
Computer programmer, analyst	21	24,271	13	21,323	Resource, urban planner	1		2	
Clerical, secretarial staff	6	13,833	44	13,970	Retail sales	23	16,118	42	12,882
Economist	1	14,100	3	21,233	Science Fields:				
Education:					chemist, physicist	27	20,265	14	19,136
secondary	3	12,200	6	15,600	resource scientist	9	19,667	9	16,067
elementary	1	7,500	9	14,963	food, nutrition, textile scientist	3	20,667	23	16,414
other	3	8,933	5	9,020	plant scientist (includes winemaker)	27	16,934	22	16,686
Engineering:					biological scientist	26	14,904	41	14,098
aeronautical	9	24,000	1	18,000	animal scientist	8	14,850	4	16,200
chemical	15	26,227	5	23,500	Skilled craftsman	14	20,821	5	11,380
civil	17	24,665	5	25,360	Social, welfare worker	8	8,375	14	11,115
electrical, computer	60	28,498	22	27,532	Unskilled worker	13	14,808	20	11,011
mechanical	23	25,681	1	29,700	Veterinary assistant	1	12,000	9	11,400
other	14	25,693	3	28,033	Writer, journalist	4	10,675	3	13,333

Note: Because of incomplete data for some cases, the n for salaries may be smaller than that shown on the table.