



TABLE OF CONTENTS
IMPORTANCE OF COMPUTER SKILLS TO CURRENT ACTIVITIES
USE OF INFORMATION TECHNOLOGY
UC DAVIS PREPARATION
SATISFACTION RATINGS

Information Technology Activities of UC Davis Graduates

Survey of June 1999
Baccalaureate Degree Recipients

By *Antoinette Davis*
Design & Layout: Brenda Graf

In an era that is increasingly technologically based, the ability to use computers and to evaluate electronic information is fundamental. Whether one presents laboratory research with PowerPoint software; designs robotic production systems; prepares a detailed budget for an employer with a spreadsheet program; or simply buys an airline ticket or schedules an appointment through the Internet -- computer technology permeates most aspects of our lives.

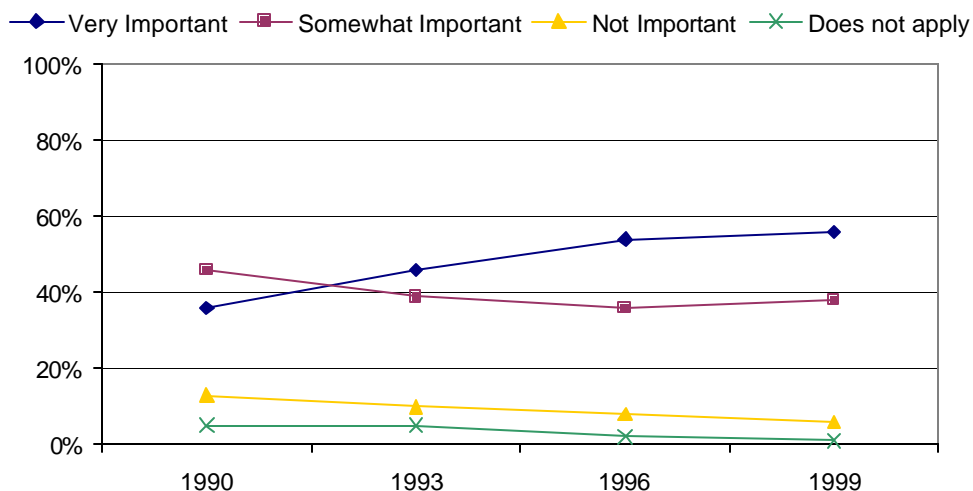
As industries evolve and increase their reliance upon computer technology, the demand for computer literate individuals will only grow. This report addresses the question, "Are UC Davis graduates equipped with the computer skills needed to excel in a technological era?" In other words, has UC Davis successfully met the educational needs and goals of undergraduate students in this fundamental area?

As outcomes and opinions of recent alumni can provide answers to these types of questions, Student Affairs Research & Information (SARI) regularly conducts surveys of recent baccalaureate degree recipients. This paper uses responses to the *Survey of June 1999 Baccalaureate Degree Recipients* to highlight both the current use of computer technology by UC graduates and their recollection of computer use while attending as an undergraduate at Davis. It addresses their preparation in the area of information technology and reports on how frequently specific computer applications were used during their undergraduate careers.

IMPORTANCE OF COMPUTER SKILLS TO CURRENT ACTIVITIES

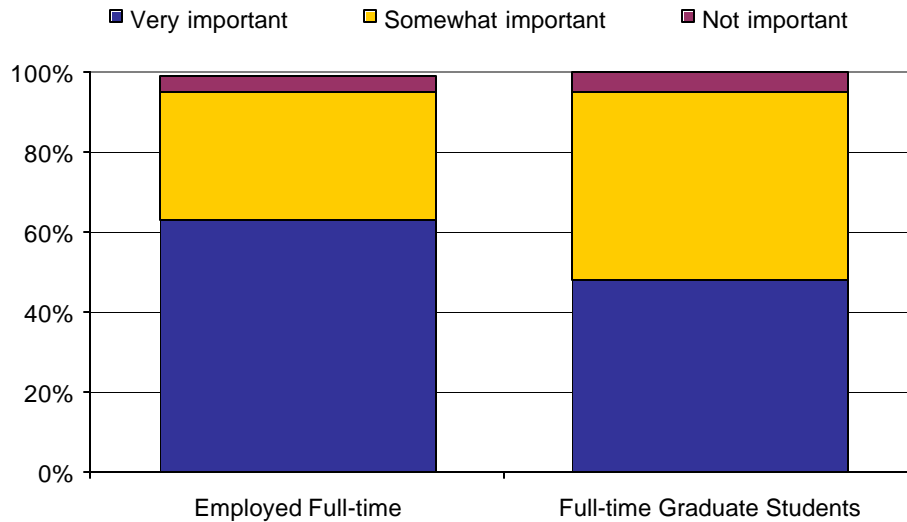
There has been a steady increase over time in the importance that alumni ascribe to computer skills. In 1990, 86% of the alumni indicated that computers skills were *very important* or *somewhat important* to their current activities. Nearly a decade later, almost all respondents (94%) to the *Survey of June 1999 Baccalaureate Degree Recipients* note the importance of these skills to their current activities. It is particularly important to note that the proportion of alumni rating computer skills as important has risen substantially over the decade (*Figure 1*).

Figure 1: Importance of Computer Skills to Current Activities : 1990 - 1999



Nearly two-thirds (64%) of the June 1999 graduates are working full-time; the remaining one-third are studying for or have recently completed a postgraduate degree or credential. Whether employed full-time or pursuing postgraduate degrees, nearly all indicate that computer skills are important to their current activities.

**Figure 2: Importance of Computer Skills to Current Activities
June 1999 Graduates**



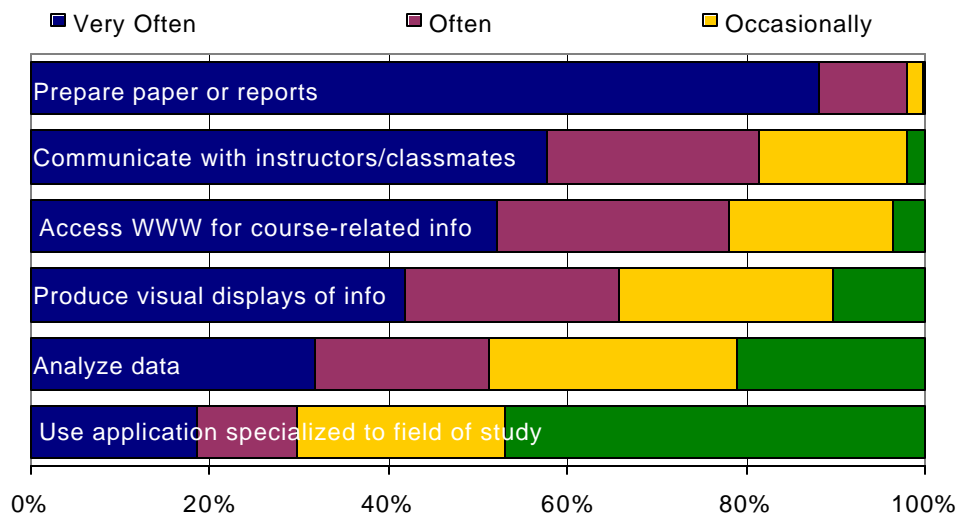
As one might predict, the importance of computer skills to current activities varies by career field. For June 1999 graduates, these skills are *important* for a large majority in all career field and are *very important* for nearly all computer scientists, mathematicians, and physical scientists (91%). Most accountants, bankers, and engineers also rate computer skills as *very important* (78% of each).

Career Field	Importance			Total
	Very important	Somewhat important	Not important	
Computer/Math/Physical Scientist	91%	9%	0%	100%
Finance/Accountant/Banking	78%	22%	0%	100%
Engineer	78%	21%	1%	99%
Artist/Designer/Writer	74%	26%	0%	100%
Sales/Marketing Professional	70%	25%	5%	95%
General Business Administrator	67%	33%	0%	100%
Farm/Forest/Other Agricultural Manager	67%	22%	11%	89%
Secretary/Clerical Worker	59%	32%	9%	91%
Social Scientist/Service Professional	54%	37%	10%	90%
Biological/Sciences/Health Scientist	49%	43%	9%	91%
Legal Services/Law Enforcement/Military	44%	56%	0%	100%
Educator	29%	67%	96%	96%

USE OF INFORMATION TECHNOLOGY AT UC DAVIS

Almost all respondents used a form of information technology during their undergraduate career at UC Davis. As shown in *Figure 3*, the vast majority prepared reports and papers with word processing applications; 88% did so *very often* and 99% at least occasionally. Most communicated with their instructors and classmates through an electronic medium (82%) *often or very often* and accessed the World Wide Web (WWW) for course-related information (78%). A somewhat smaller proportion produced visual displays (i.e. charts or graphs) with computer graphics applications (66%) and analyzed data (53%).

Figure 3: Use of Information Technology While at UC Davis
% of respondents



By Division

Regardless of their undergraduate major, similar proportions of UC Davis graduates prepared reports, communicated with professors and classmates electronically, and accessed the World Wide Web for course-related information. However, as shown in *Table 2 and Figure 4*, the frequency with which computer graphics and data analysis applications were used varies considerably across divisions; use ranges from *never used* by a significant proportion of Humanities Art & Cultural Studies and Social Sciences majors to frequently used by a majority of Engineering majors.

Table 2: Use of Information Technology by Division

Division	Frequency of Task								
	Accessed World Wide Web			Produced Visual Displays			Analyzed Data		
	Very Often - Often	Occasionally	Never	Very Often - Often	Occasionally	Never	Very Often - Often	Occasionally	Never
Agricultural Sciences	86%	10%	3%	82%	18%	0%	68%	29%	3%
Biological Sciences	75%	21%	4%	71%	22%	6%	55%	29%	16%
Engineering	85%	14%	1%	94%	6%	0%	83%	11%	6%
Environmental Sciences	79%	18%	3%	81%	20%	0%	66%	33%	1%
Humanities, Arts & Cultural Studies	68%	26%	6%	35%	31%	34%	18%	28%	54%
Human Sciences	80%	17%	3%	67%	25%	8%	60%	22%	20%
Mathematical & Physical Sciences	75%	20%	5%	71%	22%	7%	70%	27%	15%
Social Sciences	78%	18%	4%	52%	32%	16%	40%	35%	30%
All Respondents	71%	18%	11%	66%	24%	10%	51%	28%	21%

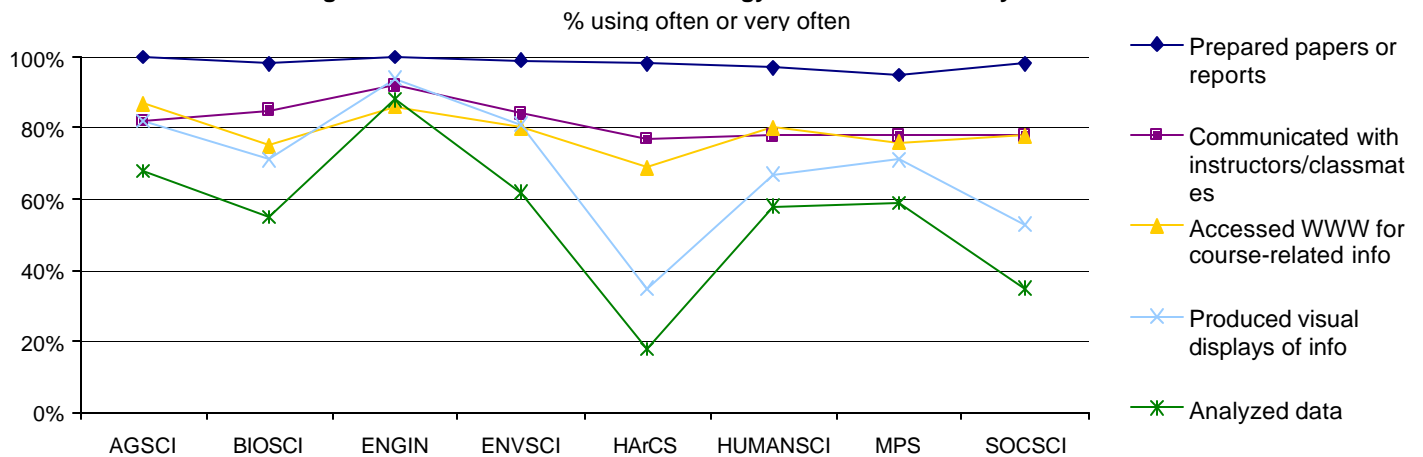
Bold = significant at ($p < .05$)

Engineering majors consistently report the greatest overall use of information technology. More of these respondents communicated with instructors and classmates electronically, produced visual displays and accessed the World Wide Web; the proportion of Agricultural Science majors who accessed the World Wide Web for course-related information is also significantly greater than the remaining majors.

A considerable proportion of Engineering majors also analyze data *often or very often* with computer applications: 83% compared to 70% of Math & Physical Sciences, 68% of Agricultural Sciences, 66% of Environmental Sciences, 60% of Human Sciences, 55% of Biological Sciences, 40% of Social Sciences and 18% of Humanities, Arts & Cultural Studies majors.

At the opposite end of the spectrum are Humanities, Arts & Cultural Studies and Social Sciences majors; not only did these respondents use computer graphics and data analysis applications less frequently than other majors, but a significant percentage had no undergraduate experience with these applications (*Table 2 and Figure 4*).

Figure 4: Use of Information Technology While at UC Davis by Division



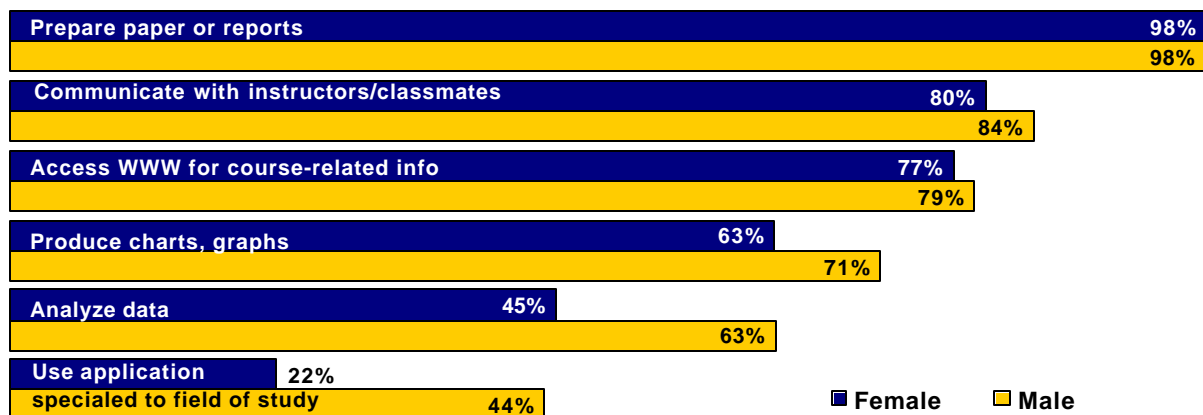
By Gender

As undergraduates, women respondents used computers to produce visual displays and to analyze data less frequently than men. Women respondents also report a lower frequency of specialized computer application usage. As shown in *Figure 5*, only 22% of women used these specialized applications *often or very often* compared to 44% of men.

The differences in usage by gender persist even when division is taken into account. The pattern of use by gender is not, however, consistent across divisions.

Figure 5: Information Technology Use by Gender

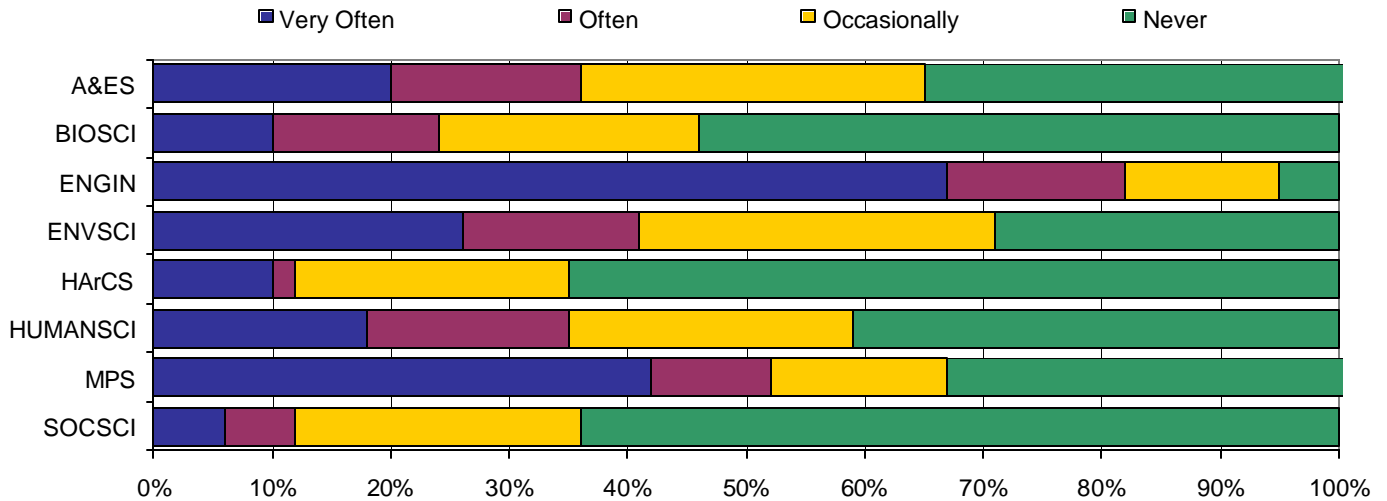
% using Often/Very Often



Applications Specialized to Field of Study

Fifty-three percent of respondents used a computer application specialized to their field of study at least *occasionally* while attending UC Davis. The comparative frequency of use by division follows the pattern established earlier in this report; it is considerably higher for Engineering majors who used specialized applications *often or very often*, and much lower for a majority of Humanities, Arts & Cultural Studies and Social Sciences majors who used these applications rarely, if at all.

Figure 6: Use Computer Applications Specialized to Field of Study by Division
% of respondents



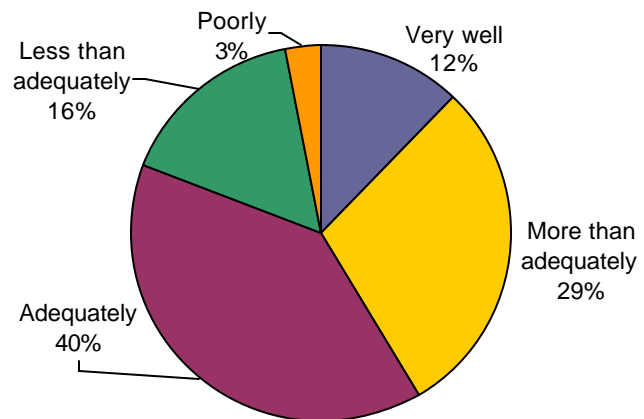
UC DAVIS PREPARATION

Information Technology Preparation

Alumni were asked how well their education at UC Davis prepared them in the area of information technology. Most respondents -- 4 of 5 -- were at least *adequately* prepared; two-fifths felt *more than adequately* or *very well* prepared; and less than one-fifth believed their preparation was *less than adequate* or *poor*.

Figure 7: Information Technology Preparation

N = 1021



Divisionally, the mean ratings for information technology preparation range from a high of 3.74 for Engineering majors--well above the overall mean--to a low of 3.08 for Humanities, Arts & Cultural Studies majors. With mean ratings of 3.56 for 3.55 respectively, Environmental Sciences and Agricultural Sciences majors also rate their preparation significantly above the overall mean.

Figure 8: Information Technology Preparation Rating by Division
 Mean Rating = 3.31

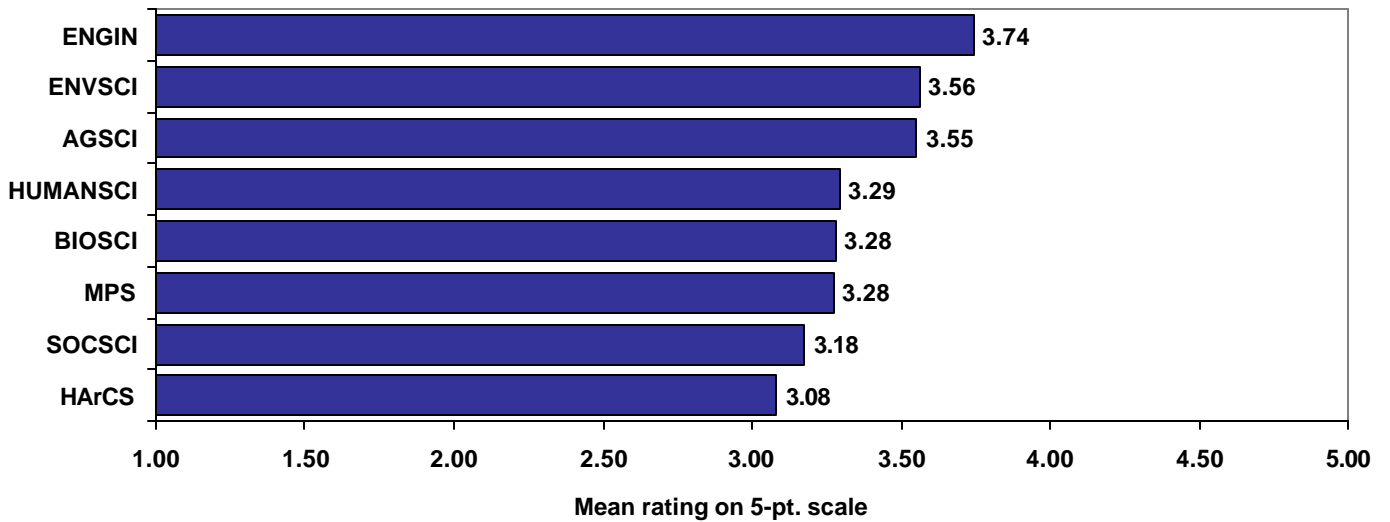
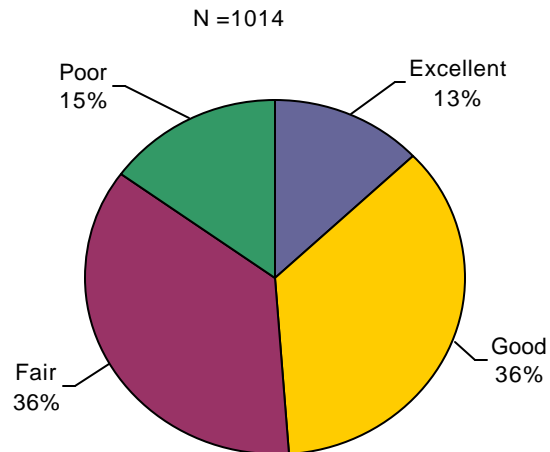


Figure 9: Computer Skills Preparation

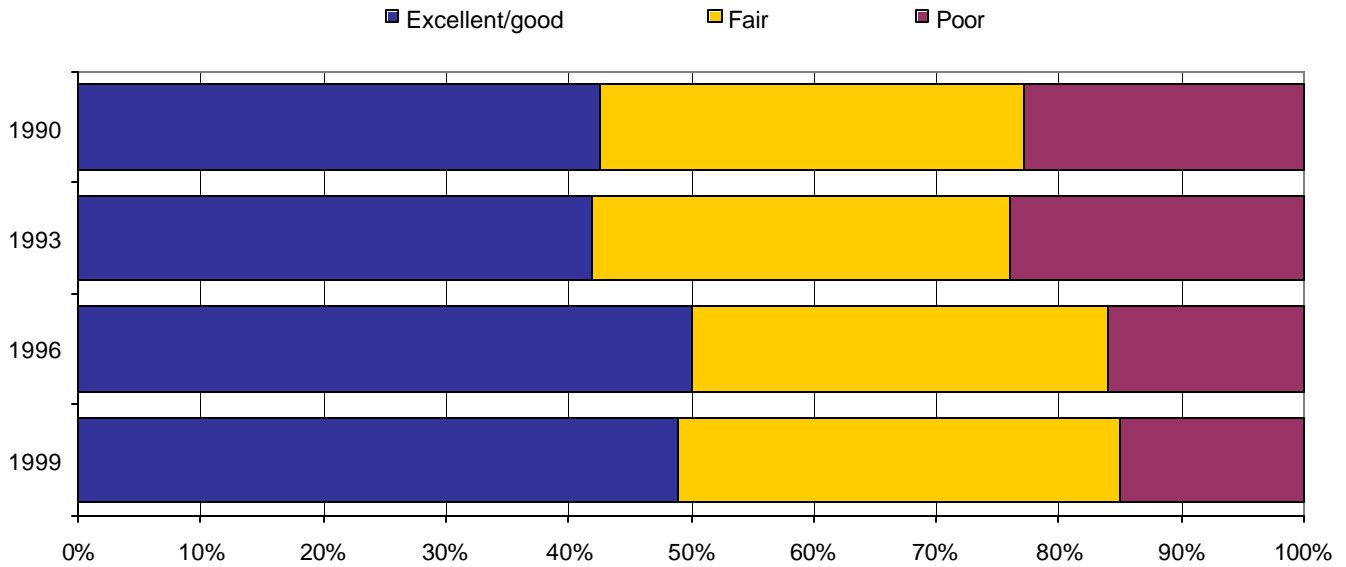
Computer Skills Preparation

Recent graduates were asked to rate their undergraduate preparation in the area of computer skills. Approximately one-half rate their preparation in this area as *good or excellent*, over one-third rate it as *fair*, and 15% rate it *poor*.



The year 1996 marked the beginning of a small increase in the proportion of graduates who rated their preparation in computer skills as *good or excellent*. As shown in *Figure 10*, this moderate increase corresponds with a small decline in those who rated their preparation as *poor*. Responses to this item have changed little since 1996.

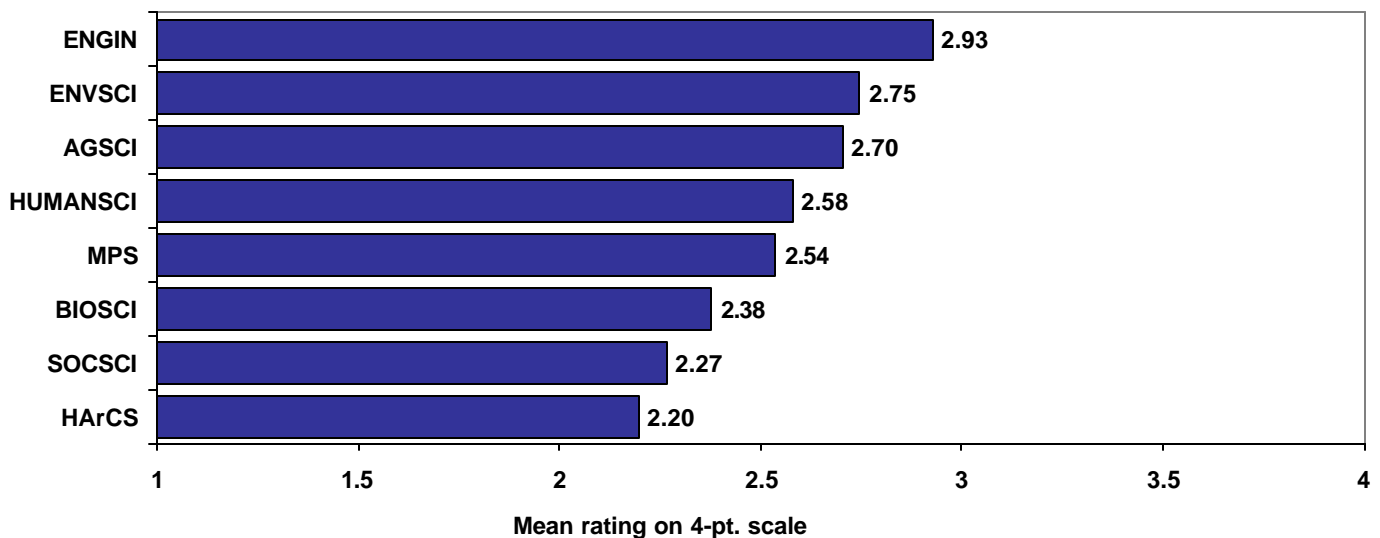
Figure 10: Computer Skills Preparation Ratings (1990 - 1999)



On a four-point scale ranging from *poor to excellent*, the mean rating for undergraduate computer skills preparation is 2.47. This rating varies by division, with a high of 2.93 for Engineering and a low of 2.20 for Humanities, Arts & Cultural Studies majors.

Figure 11: Computer Skills Preparation Rating by Division

Mean Rating = 2.47



SATISFACTION RATINGS

Figure 12: Satisfaction with Use of Information Technology in Instruction

Satisfaction with the Use of Technology in Instruction

Half of the June 1999 alumni respondents are *satisfied or very satisfied* with the use of information technology in instruction, 37% are *neutral* and 13% are *dissatisfied or very dissatisfied*.

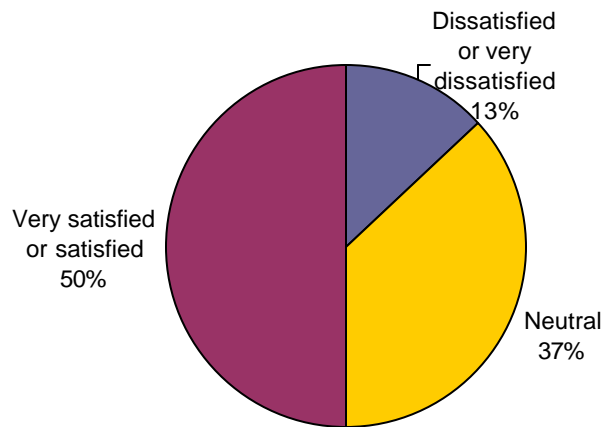
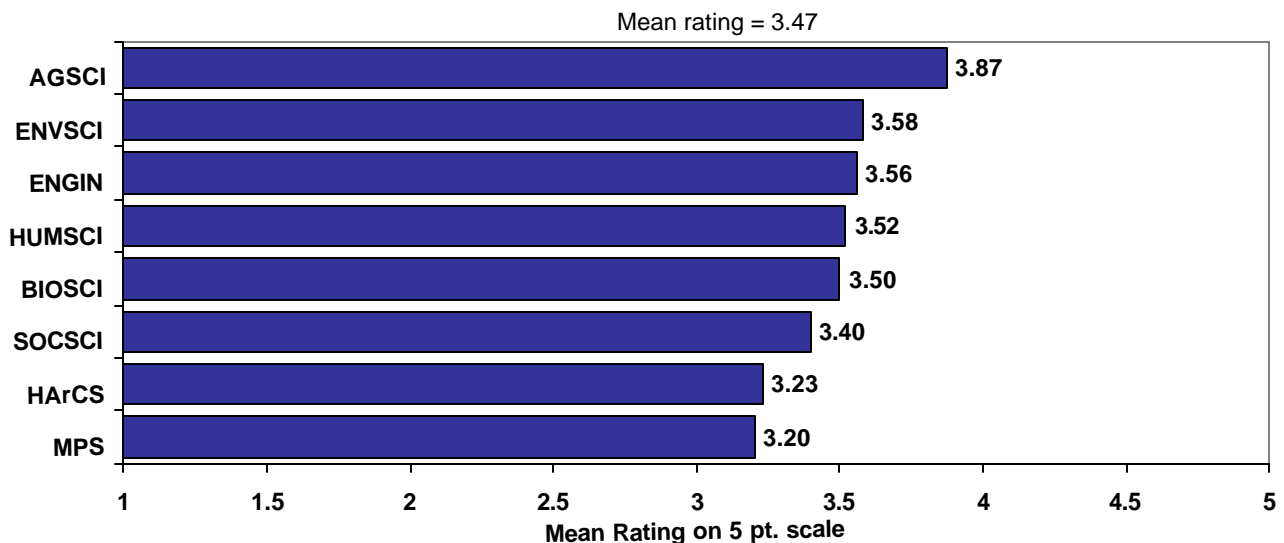


Figure 13 shows that Agricultural Sciences majors are most satisfied with the use of information technology in instruction and Mathematical & Physical Sciences, Humanities, Arts & Cultural Studies, and Social Sciences majors are the least satisfied.

Figure 13: Satisfaction with the Use of Information Technology In Instruction by Division



5 = Very Satisfied, 4= Satisfied, 3=Neutral, 2=Dissatisfied, 1=Very Dissatisfied

Satisfaction with Computer Facilities & Services

Most respondents appear moderately satisfied with UC Davis's computer facilities and services. Since 1993, the mean rating has remained fairly constant, ranging from a high of 3.85 in 1996 to a low of 3.79 in 1999.

Year	Mean rating
1993	3.81
1996	3.85
1999	3.79