

College of Engineering, Computer Science, and Construction
Management
Assessment Report

Senior Exit Survey Results:
Academic Year 2004 - 05

Summary Report and Evaluation

August 2005

Michael Ward
Associate Dean
College of ECC

Table of Contents

1.0	Introduction.....	1
2.0	Survey Administration.....	1
3.0	Survey Results	2
4.0	Educational Satisfaction Responses.....	3
5.0	Program Outcomes Responses.....	13
6.0	Conclusions.....	22

Appendices

Appendix A	- ECC Senior Exit Survey Instrument	A
Appendix B	- Supplemental Major Specific Questions	B
Appendix C	- Overall Survey Responses	C
Appendix D	- Survey Responses by Major	E
Appendix E	- Supplemental Question Responses.....	E
Appendix F	- Educational Satisfaction Question Responses – Summary Statistics	F
Appendix G	- Program Outcomes Question Responses - Summary Statistics	G

List of Tables

Table 2.1 – Fall 2004 and Spring 2005 Survey Administration	2
Table 4.1 – 2004-05 Educational Satisfaction Mean Responses by Major	6
Table 4.2 – Education Satisfaction Trends for Civil Engineering	7
Table 4.3 – Educational Satisfaction Trends for Computer and Electrical/Electronic Engr. .	8
Table 4.4 – Educational Satisfaction Trends for Computer Science, Computer Information Systems	9
Table 4.5 – Educational Satisfaction Trends for Construction Management	10
Table 4.6 – Educational Satisfaction Trends for Mechanical and Mechatronic Engineering	11
Table 4.7 – Educational Satisfaction Trends for Manufacturing Technology	12
Table 5.1 – 2004-05 Program Outcomes Mean Responses by Major	15
Table 5.2 – Program Outcomes Trends for Civil Engineering	16
Table 5.3 – Program Outcomes Trends for Computer and Electrical/Electronic Engr	17
Table 5.4 – Program Outcomes Trends for Computer Science, Computer Information Systems	18
Table 5.5 – Program Outcomes Trends for Construction Management	19
Table 5.6 – Program Outcomes Trends for Mechanical and Mechatronic Engineering	20
Table 5.7 – Program Outcomes Trends for Manufacturing Technology	21

1.0 Introduction

Prior to 1999, programs within the College of Engineering, Computer Science, and Construction Management (ECC), formerly named the College of Engineering, Computer Science, and Technology (ECT), used a variety of surveys and interviews to assess student satisfaction with college programs. Beginning with 1999-2000 academic year, the engineering programs subscribed to a senior survey provided by Engineering Benchmark Incorporated (EBI) that were expressly designed to meet the evaluative needs that are a consequence of implementing the ABET 2000 criteria. In Spring 2002 the EBI survey was replaced with a college based survey inspired by ABET 2000 yet one that could be used by all college programs for assessment. The surveys provide direct information about student plans after graduation, their perceptions about learning and their level of satisfaction with various aspects of their education at CSU, Chico. In addition, the survey allows individual programs to add additional questions each year that might focus on particular issues. A copy of the survey instrument is provided in Appendix A. Appendix B provides a summary of major specific questions administered to students in Computer Science and Computer Information Systems, Civil Engineering, Mechanical and Mechatronic Engineering, and Manufacturing Technology for the 2002-03 through 2004-05 surveys.

2.0 Survey Administration

Surveys were administered in December 2004, and again in May 2005 to graduating seniors. A total of 203 surveys were administered as indicated in Table 2.1. While the survey is intended for students in their final semester, it is often administered in a capstone course when students are near completion of major requirements. A total of 248 seniors are graduating between Summer 2004 and Spring 2005 from the selected majors in the College. It is clearly desirable to have all graduating seniors participate in the survey to ensure that the results have captured the consensus opinion of graduating students. Survey participation rates are better than in previous years, with some exceptions.

Table 2.1 – Fall 2004 and Spring 2005 Survey Administration

<u>Majors</u>	<u>Number of Surveys Administered</u>	<u>Number of Graduating Seniors 2004-05</u> ∇
CIVL – Civil Engineering	12	30
CMPE – Computer Engineering	10	18
CIS – Computer Info. Systems	14	16
CSCI – Computer Science	46	40
CMGT – Construction Management	64	91
EE – Electrical Engineering	8	15
MECH – Mechanical Engineering	14	14
MECA – Mechatronic Engineering	16	13
MFGT – Manufacturing Technology	19	11
Total	203	248

Notes:

∇ -- Number of students who graduated Summer 2004, Fall 2004, and Spring 2005 graduation.

Detailed survey results are summarized in Appendix C for all respondents, and by major in Appendix D. Surveys administered in Fall 2004 and Spring 2005 are reported collectively due to typically small numbers of fall graduates. Further, because the number of responses was small overall in certain programs, the scales used for Educational Satisfaction and Program Outcomes questions were collapsed for purposes of reporting distributions. Appendix E provides a summary of responses to program specific questions by major.

3.0 Survey Results

Referring to details from Appendices C and D, of the 248 seniors surveyed in Fall 2004 and Spring 2005, roughly 40% came to CSU, Chico as first time freshmen while the

remaining 60% came as transfer students, consistent with results from prior years. Roughly 70% of these seniors had a co-op, internship or major related job at some point during their undergraduate education, and over 90% of those believed the experience was valuable or very valuable. A majority of the seniors (95%) indicated they plan to begin work after graduation. Over 25% plan to attend graduate school at some point in the future, although the percentage varied significantly by major, ranging from a high of 51% of the Computer Science graduates, down to a low of 8% of both the Computer Engineering and the Construction Management majors. Over 60% of the graduating seniors overall had at least one job offer, with the highest percentage being in Construction Management and the lowest in Computer Science, reflecting the continuing tough job market in the so-called high-tech disciplines. These numbers are relatively high considering that a number of those surveyed had not begun searching for employment at the time the survey was administered. Over 60% those surveyed did not use the campus Career Planning and Placement Center in their job search. Only 13% of those who had a job offer at the time the survey was administered found it through the Career Planning and Placement Center. It is also worth noting that most Construction Management students typically do not use the Career Planning and Placement Center, due to the fact that the CM Department hosts companies for career placement interviews directly. Overall the placement figures reflect a slight improvement in the economy, but also show significant differences across disciplines.

4.0 Educational Satisfaction Responses

Mean responses to the Educational Satisfaction questions numbered 15 – 30 on the survey are summarized by major in Table 4.1 for Fall 2004 and Spring 2005 survey responses combined, while the trends in means and standard deviations college-wide are summarized in Appendix F. The survey scale ranged from a score of “1 = Very Dissatisfied” to “5 = Very Satisfied,” while a score of 3 can be interpreted as “neutral” or “neither.” While mean responses of 4.0 or greater are desirable, mean responses below 3.0 reflect some degree of dissatisfaction with a particular aspect of their education.

As with past survey responses, ECC majors often express a high degree of satisfaction with the overall quality of their education (Q29 – 3.87 out of 5.0) and with their overall experience at Chico State (Q30 – 4.15 out of 5.0). The same can be said of the responses regarding the quality of teaching by faculty within their own department (Q15 – 3.68 out of 5.0) and access to department faculty (Q17 – 4.24 out of 5.0). While variations exist among programs, ECC graduates overall gave their highest satisfaction rating to the following four questions:

Question	Highest Means	Mean
Q 17	Access to faculty in your department	4.24
Q 22	Access to computer facilities	4.21
Q 30	Overall experience at Chico State	4.15
Q 20	Access to lab facilities and equipment	4.02

Conversely, ECC graduates gave their lowest overall satisfaction rating to the following aspects of their education:

Question	Lowest Means	Mean
Q 25	Academic advising from the Advising Office	3.19
Q 28	Quality of GE courses	3.32

These two issues are consistently the lowest satisfaction points with ECC graduates from prior years. While the overall means to Questions 25 and 28 were still higher than a “neutral” response of 3, it is noteworthy that the mean responses to Question 25 for five of the eight programs were below 3.0. It is also worth noting that the programs that expressed the greatest dissatisfaction with advising from the Advising Office were from so-called “high unit” majors with significant variations in the General Education requirements. This pattern suggests there are likely problems with General Education advising from the Advising Office for all engineering majors in the College. This might suggest that all such advising should shift to the faculty advisors in the College.

In addition to the problems with GE advising for certain majors, other negative responses stand out which deserve further attention by the faculty and administration of particular

programs in order to understand the reason for student dissatisfaction, and decide a course of action to improve the situation. Follow-up surveys or focus groups might provide more detailed feedback to faculty. In some cases, the number of respondents vs. graduates is quite small so caution must be used in interpreting the results. These negative responses vary among programs but those with mean responses below 3.0 in Tables 4.1 include the following.

- As mentioned previously, graduates from a number of our programs (CIVL, CMPE, EE, MECH and MECA majors) were somewhat dissatisfied with academic advising from the Advising Office (Q25 means of 2.64, 2.9, 2.63, 2.77 and 2.57 respectively).
- CSCI and EE graduates are somewhat dissatisfied with the quality of teaching by faculty in their own department (Q15 means of 2.87 and 2.88 respectively) while MECA graduates are dissatisfied with the quality of teaching by “other” faculty (Q16 mean of 2.75)
- EE graduates are dissatisfied with the availability of courses in the ECE Department (Q18 mean of 2.5)
- CMPE graduates are dissatisfied with the quality of laboratories and equipment (Q21 mean of 2.7), while CIVL graduates are dissatisfied with the quality of their computer facilities (Q23 mean of 2.75)
- EE graduates are dissatisfied with both academic advising from their major advisor (Q24 mean of 2.75) and with career advice from faculty in the ECE Department (Q26 mean of 2.5)
- CIVL graduates are the least satisfied with the quality of General Education courses (Q28 mean of 2.75)

Firmly believing in continuous improvement strategies, some of these negative responses deserve the careful consideration of the faculty and administration in order to improve satisfaction of graduates from the College.

Tables 4.2 through 4.7 show trends in means by major for the Educational Satisfaction questions over the three years the survey has been administered.

Table 4.1 –2004-05 Educational Satisfaction Mean Responses by Major

Educational Satisfaction Questions	CIVL		CIS		CMGT		CMPE		CSCI		EE		MECH		MECA		MFGT		TOTAL	
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
Scale: 1=Very Dissatisfied; 5=Very Satisfied																				
Q15. Quality of teaching by faculty in department	4.00	12	3.14	14	4.27	64	3.30	10	2.87	46	2.88	8	3.86	14	3.75	16	4.26	19	3.68	203
Q16. Quality of teaching by other faculty	3.17	12	3.57	14	3.50	64	3.50	10	3.74	46	3.50	8	3.29	14	2.75	16	3.63	19	3.48	203
Q17. Access to faculty in your department	4.58	12	3.71	14	4.56	64	4.00	10	3.72	46	4.00	8	4.36	14	4.25	16	4.74	19	4.24	203
Q18. Availability of courses in your department	3.67	12	3.29	14	4.03	64	3.30	10	3.07	46	2.50	8	3.79	14	3.63	16	3.37	19	3.53	203
Q19. Quality of courses in your department	4.00	12	3.21	14	4.16	64	3.20	10	3.07	46	3.13	8	3.79	14	3.75	16	4.26	19	3.70	203
Q20. Access to lab facilities and equipment	3.83	12	3.50	14	4.53	64	3.60	10	3.78	46	4.25	8	3.64	14	3.88	16	3.95	19	4.02	203
Q21. Quality of laboratories and equipment	3.17	12	3.07	14	4.19	64	2.70	10	3.28	46	3.25	8	3.21	14	3.38	16	4.05	19	3.59	203
Q22. Access to computer facilities	3.50	12	3.50	14	4.69	64	4.20	10	3.89	46	4.13	8	4.21	14	4.33	15	4.26	19	4.21	202
Q23. Quality of computer facilities	2.75	12	3.07	14	4.28	64	3.50	10	3.39	46	3.50	8	4.31	13	4.00	16	4.42	19	3.83	202
Q24. Academic advising from your major advisor	3.50	12	3.07	14	4.20	64	3.80	10	3.59	46	2.75	8	3.29	14	3.00	16	4.16	19	3.70	203
Q25. Academic advising from the Advising Office	2.64	11	3.62	13	3.43	63	2.90	10	3.35	46	2.63	8	2.77	13	2.57	14	3.16	19	3.19	197
Q26. Career advice from faculty in your department	3.45	11	3.21	14	4.28	64	3.80	10	3.20	45	2.50	8	3.38	13	3.19	16	4.05	19	3.66	200
Q27. Availability of GE courses	3.55	11	3.79	14	3.56	63	3.60	10	4.00	45	4.57	7	3.43	14	3.44	16	3.89	19	3.72	199
Q28. Quality of GE courses	2.75	12	3.64	14	3.33	63	3.00	10	3.51	45	3.38	8	3.14	14	3.06	16	3.47	19	3.32	201
Q29. Overall quality of your education	4.50	12	3.36	14	4.19	64	3.60	10	3.52	46	3.13	8	3.79	14	3.75	16	4.21	19	3.87	203
Q30. Overall experience at Chico State	4.58	12	3.64	14	4.53	64	3.70	10	3.67	46	3.75	8	4.00	14	4.13	16	4.68	19	4.15	203

Table 4.2 -- Educational Satisfaction Trends for Civil Engineering

Educational Satisfaction Questions	Spr 02		AY 02-03		AY 03-04		AY 04-05	
	Mean	N	Mean	N	Mean	N	Mean	N
Scale: 1=Very Dissatisfied; 5=Very Satisfied								
Q15. Quality of teaching by faculty in department	4.08	12	4.12	17	3.95	20	4.00	12
Q16. Quality of teaching by other faculty	3.58	12	3.53	17	3.60	20	3.17	12
Q17. Access to faculty in your department	4.08	12	4.18	17	4.50	20	4.58	12
Q18. Availability of courses in your department	3.83	12	3.76	17	3.35	20	3.67	12
Q19. Quality of courses in your department	3.83	12	4.00	17	4.00	20	4.00	12
Q20. Access to lab facilities and equipment	4.00	12	3.94	17	3.20	20	3.83	12
Q21. Quality of laboratories and equipment	3.25	12	3.25	16	3.30	20	3.17	12
Q22. Access to computer facilities	3.33	12	3.12	17	4.20	20	3.50	12
Q23. Quality of computer facilities	3.00	12	2.71	17	3.60	20	2.75	12
Q24. Academic advising from your major advisor	3.83	12	3.71	17	3.30	20	3.50	12
Q25. Academic advising from the Advising Office	3.33	12	3.18	17	2.89	18	2.64	11
Q26. Career advice from faculty in your department	3.83	12	4.00	17	3.40	20	3.45	11
Q27. Availability of GE courses	3.75	12	3.71	17	3.95	20	3.55	11
Q28. Quality of GE courses	3.50	12	3.47	17	3.60	20	2.75	12
Q29. Overall quality of your education	4.42	12	4.35	17	4.20	20	4.50	12
Q30. Overall experience at Chico State	4.58	12	4.59	17	4.30	20	4.58	12

Table 4.3 -- Educational Satisfaction Trends for Computer and Electrical/Electronic Engr.

Educational Satisfaction Questions	Computer Engineering								Electrical/Electronic Engr							
	Spr 02		AY 02-03		AY 03-04		AY 04-05		Spr 02		AY 02-03		AY 03-04		AY 04-05	
Scale: 1=Very Dissatisfied; 5=Very Satisfied	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
Q15. Quality of teaching by faculty in department	4.00	20	3.88	25	3.33	12	3.30	10	3.50	6	3.18	11	3.08	13	2.88	8
Q16. Quality of teaching by other faculty	3.40	20	3.44	25	3.58	12	3.50	10	4.00	6	3.50	10	4.00	13	3.50	8
Q17. Access to faculty in your department	4.25	20	4.25	24	4.17	12	4.00	10	4.17	6	4.36	11	4.08	13	4.00	8
Q18. Availability of courses in your department	3.30	20	3.92	25	2.92	12	3.30	10	2.33	6	3.64	11	3.25	12	2.50	8
Q19. Quality of courses in your department	3.95	20	3.92	25	4.00	12	3.20	10	3.50	6	3.55	11	3.38	13	3.13	8
Q20. Access to lab facilities and equipment	4.10	20	4.00	25	3.92	12	3.60	10	4.00	6	4.00	11	4.08	13	4.25	8
Q21. Quality of laboratories and equipment	3.75	20	3.52	25	3.58	12	2.70	10	3.83	6	3.73	11	3.46	13	3.25	8
Q22. Access to computer facilities	3.45	20	4.16	25	4.00	12	4.20	10	3.83	6	3.73	11	3.85	13	4.13	8
Q23. Quality of computer facilities	3.40	20	3.96	25	3.75	12	3.50	10	3.83	6	3.70	10	3.69	13	3.50	8
Q24. Academic advising from your major advisor	3.30	20	4.04	25	3.42	12	3.80	10	3.80	5	3.91	11	3.46	13	2.75	8
Q25. Academic advising from the Advising Office	2.65	20	3.58	24	3.00	11	2.90	10	3.20	5	3.90	10	3.23	13	2.63	8
Q26. Career advice from faculty in your department	3.42	19	3.84	25	3.42	12	3.80	10	3.60	5	3.36	11	3.23	13	2.50	8
Q27. Availability of GE courses	3.55	20	4.04	25	3.92	12	3.60	10	3.67	6	3.55	11	4.15	13	4.57	7
Q28. Quality of GE courses	3.00	20	3.52	25	3.42	12	3.00	10	3.67	6	3.36	11	3.31	13	3.38	8
Q29. Overall quality of your education	4.15	20	4.12	25	3.91	11	3.60	10	3.67	6	3.50	10	3.85	13	3.13	8
Q30. Overall experience at Chico State	4.10	20	4.28	25	3.92	12	3.70	10	4.17	6	3.91	11	3.69	13	3.75	8

Table 4.4 -- Educational Satisfaction Trends for Computer Science, Computer Information Systems

Educational Satisfaction Questions	Computer Science *								Computer Information Sys *							
	Spr 02		AY 02-03		AY 03-04		AY 04-05		Spr 02		AY 02-03		AY 03-04		AY 04-05	
Scale: 1=Very Dissatisfied; 5=Very Satisfied	Mean	N	Mean	N	Mean	N	Mean	N		Mean	N	Mean	N	Mean	N	
Q15. Quality of teaching by faculty in department	3.32	19	3.32	25	2.95	19	2.87	46		2.67	9	3.33	6	3.14	14	
Q16. Quality of teaching by other faculty	3.89	19	3.60	25	3.42	19	3.74	46		3.44	9	3.83	6	3.57	14	
Q17. Access to faculty in your department	3.79	19	4.04	25	3.68	19	3.72	46		3.67	9	3.83	6	3.71	14	
Q18. Availability of courses in your department	2.53	19	3.42	24	2.79	19	3.07	46		2.56	9	3.17	6	3.29	14	
Q19. Quality of courses in your department	3.42	19	3.52	25	2.79	19	3.07	46		2.89	9	3.33	6	3.21	14	
Q20. Access to lab facilities and equipment	3.11	19	3.92	25	3.22	18	3.78	46		4.22	9	4.17	6	3.50	14	
Q21. Quality of laboratories and equipment	3.21	19	3.80	25	2.61	18	3.28	46		3.44	9	3.83	6	3.07	14	
Q22. Access to computer facilities	3.21	19	3.96	25	3.32	19	3.89	46		4.00	9	3.83	6	3.50	14	
Q23. Quality of computer facilities	3.42	19	3.80	25	2.74	19	3.39	46		3.44	9	3.33	6	3.07	14	
Q24. Academic advising from your major advisor	4.05	19	4.00	24	3.63	19	3.59	46		3.78	9	3.50	6	3.07	14	
Q25. Academic advising from the Advising Office	3.37	19	3.36	25	3.26	19	3.35	46		3.22	9	3.67	6	3.62	13	
Q26. Career advice from faculty in your department	3.32	19	3.38	24	3.37	19	3.20	45		3.25	8	3.50	6	3.21	14	
Q27. Availability of GE courses	4.00	19	3.80	25	3.79	19	4.00	45		3.78	9	3.67	6	3.79	14	
Q28. Quality of GE courses	3.63	19	3.68	25	3.58	19	3.51	45		3.67	9	4.00	6	3.64	14	
Q29. Overall quality of your education	3.58	19	3.61	23	3.16	19	3.52	46		3.38	8	3.83	6	3.36	14	
Q30. Overall experience at Chico State	3.89	19	3.80	25	3.32	19	3.67	46		3.67	9	3.50	6	3.64	14	

* Spring 2002 Results for CIS Combined with CSCI Responses

Table 4.5 – Educational Satisfaction Trends for Construction Management

Educational Satisfaction Questions	AY 02-03		AY 03-04		AY 04-05	
	Mean	N	Mean	N	Mean	N
Q15. Quality of teaching by faculty in department	3.85	53	4.09	55	4.27	64
Q16. Quality of teaching by other faculty	3.28	53	3.64	55	3.50	64
Q17. Access to faculty in your department	4.40	52	4.45	55	4.56	64
Q18. Availability of courses in your department	3.83	53	4.24	55	4.03	64
Q19. Quality of courses in your department	3.96	53	4.02	54	4.16	64
Q20. Access to lab facilities and equipment	4.40	53	4.57	54	4.53	64
Q21. Quality of laboratories and equipment	4.04	53	4.30	53	4.19	64
Q22. Access to computer facilities	4.40	53	4.61	54	4.69	64
Q23. Quality of computer facilities	4.13	53	4.26	54	4.28	64
Q24. Academic advising from your major advisor	3.91	53	4.26	54	4.20	64
Q25. Academic advising from the Advising Office	3.29	51	3.49	53	3.43	63
Q26. Career advice from faculty in your department	3.83	53	4.20	54	4.28	64
Q27. Availability of GE courses	3.15	52	3.57	53	3.56	63
Q28. Quality of GE courses	3.02	53	3.28	53	3.33	63
Q29. Overall quality of your education	3.77	53	4.28	53	4.19	64
Q30. Overall experience at Chico State	4.17	53	4.51	53	4.53	64

Table 4.6 – Educational Satisfaction Trends for Mechanical and Mechatronic Engineering

Educational Satisfaction Questions	Mechanical Engineering								Mechatronic Engineering							
	Spr 02		AY 02-03		AY 03-04		AY 04-05		Spr 02		AY 02-03		AY 03-04		AY 04-05	
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
Scale: 1=Very Dissatisfied; 5=Very Satisfied																
Q15. Quality of teaching by faculty in department	4.29	21	4.55	22	4.20	15	3.86	14	3.85	13	4.57	7	4.00	9	3.75	16
Q16. Quality of teaching by other faculty	3.48	21	3.41	22	3.40	15	3.29	14	3.23	13	4.14	7	3.33	9	2.75	16
Q17. Access to faculty in your department	4.62	21	4.77	22	4.67	15	4.36	14	4.31	13	4.71	7	4.33	9	4.25	16
Q18. Availability of courses in your department	4.05	21	3.55	22	3.13	15	3.79	14	3.46	13	4.29	7	3.56	9	3.63	16
Q19. Quality of courses in your department	4.00	21	4.18	22	4.07	15	3.79	14	4.08	13	4.57	7	4.00	9	3.75	16
Q20. Access to lab facilities and equipment	3.52	21	3.73	22	3.67	15	3.64	14	3.77	13	4.29	7	4.44	9	3.88	16
Q21. Quality of laboratories and equipment	3.48	21	3.41	22	3.67	15	3.21	14	3.54	13	3.57	7	3.44	9	3.38	16
Q22. Access to computer facilities	3.52	21	3.86	22	4.07	15	4.21	14	3.54	13	4.14	7	4.44	9	4.33	15
Q23. Quality of computer facilities	3.81	21	3.43	21	4.07	15	4.31	13	3.77	13	3.43	7	3.89	9	4.00	16
Q24. Academic advising from your major advisor	3.52	21	3.55	22	4.00	15	3.29	14	3.08	13	3.71	7	3.56	9	3.00	16
Q25. Academic advising from the Advising Office	2.58	19	3.05	21	3.07	15	2.77	13	2.77	13	3.71	7	3.11	9	2.57	14
Q26. Career advice from faculty in your department	3.25	20	3.33	21	3.67	15	3.38	13	3.08	13	3.43	7	2.89	9	3.19	16
Q27. Availability of GE courses	3.38	21	3.59	22	3.20	15	3.43	14	3.38	13	3.71	7	3.11	9	3.44	16
Q28. Quality of GE courses	3.10	21	3.27	22	2.67	15	3.14	14	2.38	13	3.71	7	3.22	9	3.06	16
Q29. Overall quality of your education	4.19	21	4.32	22	3.93	15	3.79	14	4.08	13	4.43	7	4.22	9	3.75	16
Q30. Overall experience at Chico State	4.52	21	4.45	22	4.00	15	4.00	14	4.31	13	4.71	7	4.33	9	4.13	16

Table 4.7 – Educational Satisfaction Trends for Manufacturing Technology

Educational Satisfaction Questions	Spr 02		AY 02-03		AY 03-04		AY 04-05	
	Mean	N	Mean	N	Mean	N	Mean	N
Q15. Quality of teaching by faculty in department	3.93	14	4.05	19	3.82	11	4.26	19
Q16. Quality of teaching by other faculty	3.50	14	3.53	19	3.27	11	3.63	19
Q17. Access to faculty in your department	4.50	14	4.26	19	4.45	11	4.74	19
Q18. Availability of courses in your department	3.86	14	3.53	19	2.73	11	3.37	19
Q19. Quality of courses in your department	4.07	14	4.11	19	3.73	11	4.26	19
Q20. Access to lab facilities and equipment	4.07	14	4.05	19	3.09	11	3.95	19
Q21. Quality of laboratories and equipment	3.29	14	3.16	19	3.09	11	4.05	19
Q22. Access to computer facilities	3.71	14	4.11	19	4.27	11	4.26	19
Q23. Quality of computer facilities	3.71	14	3.79	19	4.27	11	4.42	19
Q24. Academic advising from your major advisor	3.79	14	4.21	19	3.82	11	4.16	19
Q25. Academic advising from the Advising Office	3.08	12	3.37	19	2.82	11	3.16	19
Q26. Career advice from faculty in your department	3.75	12	3.53	19	3.64	11	4.05	19
Q27. Availability of GE courses	3.50	14	3.58	19	3.40	10	3.89	19
Q28. Quality of GE courses	3.36	14	3.32	19	3.20	10	3.47	19
Q29. Overall quality of your education	4.07	14	4.11	19	4.00	11	4.21	19
Q30. Overall experience at Chico State	4.36	14	4.28	18	4.36	11	4.68	19

It is valuable to look at the educational satisfaction trends over the past few years, focusing in particular on the two global satisfaction questions (Q29 – Overall quality of your education and Q30 – Overall experience at Chico State). From Table 4.2 it can be seen that Civil Engineering graduates give consistently high marks for both their education and their experience. Graduates from Construction Management and Manufacturing Technology (Tables 4.5 and 4.7) also show consistently high responses with both questions over time. Graduates in Computer and Electrical Engineering (Table 4.3) have expressed a declining level of satisfaction in both areas. The same can be said lately for graduates in Mechanical and Mechatronic Engineering; Table 4.6 shows a recent dip in satisfaction among both majors although the overall level of satisfaction is still quite high. Overall, Computer Science and Computer Information Systems graduates continue to show a consistently lower level of satisfaction that has not shown significant change over the last few years. It is the responsibility of program faculty to further investigate the possible causes for these trends.

5.0 Program Outcomes Responses

Mean responses to the “Program Outcomes” questions numbered 31 – 43 on the survey are summarized by major in Table 5.1 while the trends in means and standard deviations college-wide are summarized in Appendix G. The survey scale ranged from a score of “1 = Very Unprepared” to “5 = Very Well Prepared,” with a score of 3 being neutral. Again, while mean responses of 4.0 or greater are desirable, responses over 3.0 can still be considered positive while those below 3.0 reflect a degree of dissatisfaction with certain aspects of student preparation. Consistent with previous surveys, the mean responses to the Program Outcomes questions for the 2004-05 surveys are higher than the means for the Educational Satisfaction questions. Overall, College of ECC graduates feel well prepared in a number of areas. While variations exist among programs, College of ECC graduates gave their highest ratings to the following four Program Outcomes questions:

Question	Highest Means	Mean
Q 39	Understand professional, ethical responsibilities	4.24
Q 43	Continue learning	4.24
Q 35	Function on interdisciplinary teams	4.2
Q 35	Identify, formulate, solve technical problems	4.15

Conversely, College of ECC graduates gave their lowest ratings to the following Program Outcomes questions (although these means are still very positive overall):

Question	Lowest Means	Mean
Q 34	Design component or system	3.82
Q 40	Understand contemporary issues facing society	3.83
Q 32	Design and conduct experiments	3.84

As with other results, the variation among programs is significant. Tables 5.2 through 5.7 show trends in means by major for the Program Outcomes questions over the three years the survey has been administered. It is useful to review these results with program faculty when contemplating changes in curricular content and structure.

Table 5.1 -- 2004-05 Program Outcomes Mean Responses by Major

Program Outcomes Questions	CIVL	CIS	CMGT	CMPE	CSCI	EE	MECH	MECA	MFGT	TOTAL
Scale: 1=Very Unprepared; 5=Very Well Prepared	Mean N	Mean N	Mean N	Mean N	Mean N	Mean N	Mean N	Mean N	Mean N	Mean N
Q31. Apply knowledge to solve problems	4.67 12	3.36 14	4.33 64	3.80 10	3.96 46	3.63 8	4.07 14	4.06 16	4.26 19	4.10 203
Q32. Design and conduct experiments	4.17 12	3.29 14	3.95 64	3.80 10	3.70 46	3.25 8	3.86 14	3.94 16	4.16 19	3.84 203
Q33. Analyze and interpret experimental data	4.33 12	3.43 14	4.02 64	3.80 10	3.80 45	3.63 8	4.14 14	4.06 16	4.05 19	3.94 202
Q34. Design component or system to meet needs	4.08 12	3.36 14	3.83 63	3.70 10	3.76 46	3.13 8	3.93 14	3.88 16	4.37 19	3.82 202
Q35. Function on multidisciplinary team	4.75 12	4.00 14	4.19 63	4.20 10	3.85 46	4.13 8	4.36 14	4.50 16	4.58 19	4.20 202
Q36. Identify, formulate, solve technical problems	4.67 12	3.79 14	4.38 64	3.80 10	3.91 46	3.75 8	4.14 14	3.94 16	4.47 19	4.15 203
Q37. Communicate technical matters in writing	4.50 12	3.57 14	4.11 64	4.10 10	3.59 46	3.88 8	3.71 14	4.06 16	4.21 19	3.95 203
Q38. Communicate technical matters orally	4.08 12	3.86 14	4.23 64	3.80 10	3.50 46	3.75 8	4.00 14	4.19 16	4.00 19	3.95 203
Q39. Understand professional, ethical responsibilities	4.25 12	4.07 14	4.47 64	4.20 10	3.87 46	4.38 8	4.14 14	4.25 16	4.53 19	4.24 203
Q40. Understand contemporary issues facing society	3.58 12	3.71 14	4.02 64	3.60 10	3.76 46	3.63 8	3.57 14	3.75 16	4.11 19	3.83 203
Q41. Use modern tools and technology	4.25 12	3.71 14	4.31 64	3.50 10	3.67 46	3.50 8	3.57 14	3.81 16	4.47 19	3.98 203
Q42. Enter the workplace	4.50 12	3.57 14	4.45 65	3.60 10	3.41 46	3.00 7	4.00 14	3.88 16	4.53 19	4.00 202
Q43. Continue learning	4.67 12	3.86 14	4.39 64	4.00 10	4.02 46	3.63 8	4.54 13	4.06 16	4.63 19	4.24 202

Other

Scale: 1=Strongly Disagree; 5=Strongly Agree

Q44. Recommend major program to others	4.92 12	3.21 14	4.66 62	3.00 10	3.17 46	3.50 8	3.77 13	3.75 16	4.83 18	3.98 199
--	---------	---------	---------	---------	---------	--------	---------	---------	---------	----------

Table 5.2 -- Program Outcomes Trends for Civil Engineering

Program Outcomes Questions	Spr 02		AY 02-03		AY 03-04		AY 04-05	
	Mean	N	Mean	N	Mean	N	Mean	N
Q31. Apply knowledge to solve problems	4.20	15	4.18	17	4.35	20	4.67	12
Q32. Design and conduct experiments	3.60	15	3.94	17	4.10	20	4.17	12
Q33. Analyze and interpret experimental data	3.93	15	4.12	17	4.40	20	4.33	12
Q34. Design component or system to meet needs	3.33	15	4.06	16	4.10	20	4.08	12
Q35. Function on multidisciplinary team	4.33	15	4.12	17	4.45	20	4.75	12
Q36. Identify, formulate, solve technical problems	4.07	15	4.24	17	4.40	20	4.67	12
Q37. Communicate technical matters in writing	4.20	15	4.18	17	4.50	20	4.50	12
Q38. Communicate technical matters orally	4.07	15	4.00	17	4.30	20	4.08	12
Q39. Understand professional, ethical responsibilities	3.73	15	4.00	17	4.35	20	4.25	12
Q40. Understand contemporary issues facing society	3.53	15	3.76	17	3.90	20	3.58	12
Q41. Use modern tools and technology	3.80	15	4.12	17	3.95	20	4.25	12
Q42. Enter the workplace	4.33	15	4.12	17	4.25	20	4.50	12
Q43. Continue learning	4.33	15	4.35	17	4.50	20	4.67	12

Other

Scale: 1=Strongly Disagree; 5=Strongly Agree

Q44. Recommend major program to others	4.07	15	4.19	16	4.35	20	4.92	12
--	------	----	------	----	------	----	------	----

Table 5.3 – Program Outcomes Trends for Computer and Electrical/Electronic Engr

Program Outcomes Questions	Computer Engineering							
	Spr 02		AY 02-03		AY 03-04		AY 04-05	
	Mean	N	Mean	N	Mean	N	Mean	N
Q31. Apply knowledge to solve problems	4.35	20	4.28	25	4.25	12	3.80	10
Q32. Design and conduct experiments	4.30	20	4.24	25	4.25	12	3.80	10
Q33. Analyze and interpret experimental data	4.35	20	4.24	25	4.33	12	3.80	10
Q34. Design component or system to meet needs	4.10	20	4.21	24	4.17	12	3.70	10
Q35. Function on multidisciplinary team	3.95	19	4.28	25	4.25	12	4.20	10
Q36. Identify, formulate, solve technical problems	4.30	20	4.32	25	4.18	11	3.80	10
Q37. Communicate technical matters in writing	3.85	20	4.24	25	3.75	12	4.10	10
Q38. Communicate technical matters orally	4.05	20	4.12	25	3.75	12	3.80	10
Q39. Understand professional, ethical responsibilities	4.10	20	4.32	25	4.25	12	4.20	10
Q40. Understand contemporary issues facing society	3.63	19	4.00	25	3.58	12	3.60	10
Q41. Use modern tools and technology	4.00	20	3.96	25	3.83	12	3.50	10
Q42. Enter the workplace	3.60	20	4.24	25	3.92	12	3.60	10
Q43. Continue learning	4.00	20	4.36	25	4.17	12	4.00	10

Program Outcomes Questions	Electrical/Electronic Engr							
	Spr 02		AY 02-03		AY 03-04		AY 04-05	
	Mean	N	Mean	N	Mean	N	Mean	N
Q31. Apply knowledge to solve problems	3.67	6	3.64	11	3.69	13	3.63	8
Q32. Design and conduct experiments	3.67	6	3.45	11	3.69	13	3.25	8
Q33. Analyze and interpret experimental data	3.67	6	3.73	11	3.23	13	3.63	8
Q34. Design component or system to meet needs	3.50	6	3.82	11	3.58	12	3.13	8
Q35. Function on multidisciplinary team	4.00	6	3.82	11	4.00	13	4.13	8
Q36. Identify, formulate, solve technical problems	4.00	6	4.00	11	4.08	13	3.75	8
Q37. Communicate technical matters in writing	4.17	6	3.70	10	4.15	13	3.88	8
Q38. Communicate technical matters orally	4.00	6	3.73	11	4.31	13	3.75	8
Q39. Understand professional, ethical responsibilities	3.67	6	4.18	11	4.15	13	4.38	8
Q40. Understand contemporary issues facing society	3.00	6	3.82	11	3.77	13	3.63	8
Q41. Use modern tools and technology	4.17	6	3.45	11	3.77	13	3.50	8
Q42. Enter the workplace	3.83	6	3.55	11	4.08	13	3.00	7
Q43. Continue learning	4.00	6	3.82	11	4.23	13	3.63	8

Other

Scale: 1=Strongly Disagree; 5=Strongly Agree

Q44. Recommend major program to others	4.00	20	4.48	25	3.89	9	3.00	10
--	------	----	------	----	------	---	------	----

Q44. Recommend major program to others	3.50	6	3.82	11	3.77	13	3.50	8
--	------	---	------	----	------	----	------	---

Table 5.4 -- Program Outcomes Trends for Computer Science, Computer Information Systems

Program Outcomes Questions	Computer Science *							
	Spr 02		AY 02-03		AY 03-04		AY 04-05	
	Mean	N	Mean	N	Mean	N	Mean	N
Q31. Apply knowledge to solve problems	3.95	19	4.16	25	3.68	19	3.96	46
Q32. Design and conduct experiments	3.84	19	3.68	25	3.37	19	3.70	46
Q33. Analyze and interpret experimental data	3.81	19	3.88	25	3.42	19	3.80	45
Q34. Design component or system to meet needs	4.00	19	4.20	25	3.89	19	3.76	46
Q35. Function on multidisciplinary team	3.84	19	3.84	25	3.53	19	3.85	46
Q36. Identify, formulate, solve technical problems	4.26	19	4.00	25	3.89	19	3.91	46
Q37. Communicate technical matters in writing	3.84	19	3.72	25	3.74	19	3.59	46
Q38. Communicate technical matters orally	3.95	19	3.72	25	3.42	19	3.50	46
Q39. Understand professional, ethical responsibilities	4.05	19	3.88	25	4.00	19	3.87	46
Q40. Understand contemporary issues facing society	3.53	19	3.71	24	3.58	19	3.76	46
Q41. Use modern tools and technology	4.11	19	3.88	25	4.00	19	3.67	46
Q42. Enter the workplace	4.00	19	3.72	25	3.26	19	3.41	46
Q43. Continue learning	4.21	19	4.28	25	3.84	19	4.02	46

Program Outcomes Questions	Computer Information Sys *							
	Spr 02		AY 02-03		AY 03-04		AY 04-05	
	Mean	N	Mean	N	Mean	N	Mean	N
			3.56	9	3.67	6	3.36	14
			3.56	9	3.67	6	3.29	14
			3.78	9	3.83	6	3.43	14
			3.89	9	3.50	6	3.36	14
			4.11	9	4.00	6	4.00	14
			3.78	9	4.33	6	3.79	14
			4.00	9	4.17	6	3.57	14
			3.56	9	4.00	6	3.86	14
			3.89	9	4.33	6	4.07	14
			3.56	9	3.83	6	3.71	14
			4.44	9	4.33	6	3.71	14
			3.33	9	3.83	6	3.57	14
			3.67	9	4.00	6	3.86	14

Other

Scale: 1=Strongly Disagree; 5=Strongly Agree

Q44. Recommend major program to others	3.76	17	3.92	24	3.32	19	3.17	46
--	------	----	------	----	------	----	------	----

	2.75	8	4.00	6	3.21	14
--	------	---	------	---	------	----

* 2002 Results for CIS Combined with CSCI Responses

Table 5.5 -- Program Outcomes Trends for Construction Management

Program Outcomes Questions	AY 02-03		AY 03-04		AY 04-05	
	Mean	N	Mean	N	Mean	N
Q31. Apply knowledge to solve problems	3.89	53	4.10	52	4.33	64
Q32. Design and conduct experiments	3.62	53	3.75	52	3.95	64
Q33. Analyze and interpret experimental data	3.74	53	4.00	52	4.02	64
Q34. Design component or system to meet needs	3.66	53	3.77	52	3.83	63
Q35. Function on multidisciplinary team	3.85	53	4.12	52	4.19	63
Q36. Identify, formulate, solve technical problems	3.89	53	4.13	52	4.38	64
Q37. Communicate technical matters in writing	3.74	53	4.08	52	4.11	64
Q38. Communicate technical matters orally	3.81	53	4.10	52	4.23	64
Q39. Understand professional, ethical responsibilities	4.02	53	4.27	52	4.47	64
Q40. Understand contemporary issues facing society	3.85	53	4.02	52	4.02	64
Q41. Use modern tools and technology	3.94	53	4.27	52	4.31	64
Q42. Enter the workplace	4.06	53	4.27	52	4.45	65
Q43. Continue learning	4.09	53	4.20	51	4.39	64

Other

Scale: 1=Strongly Disagree; 5=Strongly Agree

Q44. Recommend major program to others	4.40	52	4.67	48	4.66	62
--	------	----	------	----	------	----

Table 5.6 -- Program Outcomes Trends for Mechanical and Mechatronic Engineering

Program Outcomes Questions	Mechanical Engineering							
	Spr 02		AY 02-03		AY-03-04		AY-04-05	
	Mean	N	Mean	N	Mean	N	Mean	N
Q31. Apply knowledge to solve problems	4.14	21	4.18	22	4.50	14	4.07	14
Q32. Design and conduct experiments	3.86	21	3.86	22	3.93	15	3.86	14
Q33. Analyze and interpret experimental data	4.14	21	3.95	22	4.27	15	4.14	14
Q34. Design component or system to meet needs	4.29	21	4.00	22	4.40	15	3.93	14
Q35. Function on multidisciplinary team	4.00	21	4.32	22	4.33	15	4.36	14
Q36. Identify, formulate, solve technical problems	4.00	21	4.23	22	4.40	15	4.14	14
Q37. Communicate technical matters in writing	3.95	21	3.91	22	4.13	15	3.71	14
Q38. Communicate technical matters orally	4.19	21	3.86	21	4.13	15	4.00	14
Q39. Understand professional, ethical responsibilities	4.00	21	4.14	22	4.00	15	4.14	14
Q40. Understand contemporary issues facing society	3.86	21	3.81	21	3.73	15	3.57	14
Q41. Use modern tools and technology	3.81	21	3.95	22	4.13	15	3.57	14
Q42. Enter the workplace	4.00	21	4.05	22	4.00	15	4.00	14
Q43. Continue learning	4.19	21	4.27	22	4.27	15	4.54	13

Program Outcomes Questions	Mechatronic Engineering							
	Spr 02		AY 02-03		AY 03-04		AY 04-05	
	Mean	N	Mean	N	Mean	N	Mean	N
Q31. Apply knowledge to solve problems	4.23	13	4.43	7	4.56	9	4.06	16
Q32. Design and conduct experiments	4.00	13	4.43	7	4.33	9	3.94	16
Q33. Analyze and interpret experimental data	4.00	13	4.29	7	4.22	9	4.06	16
Q34. Design component or system to meet needs	4.15	13	4.71	7	4.22	9	3.88	16
Q35. Function on multidisciplinary team	4.54	13	4.57	7	4.67	9	4.50	16
Q36. Identify, formulate, solve technical problems	4.15	13	4.57	7	4.78	9	3.94	16
Q37. Communicate technical matters in writing	3.85	13	4.14	7	4.33	9	4.06	16
Q38. Communicate technical matters orally	4.08	13	4.00	7	4.22	9	4.19	16
Q39. Understand professional, ethical responsibilities	3.85	13	4.00	7	3.78	9	4.25	16
Q40. Understand contemporary issues facing society	3.46	13	3.29	7	3.44	9	3.75	16
Q41. Use modern tools and technology	4.15	13	3.14	7	4.11	9	3.81	16
Q42. Enter the workplace	4.00	13	4.00	7	3.56	9	3.88	16
Q43. Continue learning	4.38	13	4.57	7	4.22	9	4.06	16

Other

Scale: 1=Strongly Disagree; 5=Strongly Agree

Q44. Recommend major program to others	4.43	21	4.59	22	4.31	13	3.77	13
--	------	----	------	----	------	----	------	----

Q44. Recommend major program to others	4.38	13	4.86	7	4.56	9	3.75	16
--	------	----	------	---	------	---	------	----

Table 5.7 -- Program Outcomes Trends for Manufacturing Technology

Program Outcomes Questions	Spr 02		AY 02-03		AY 03-04		AY 04-05	
	Mean	N	Mean	N	Mean	N	Mean	N
Q31. Apply knowledge to solve problems	4.07	14	3.95	19	3.91	11	4.26	19
Q32. Design and conduct experiments	4.21	14	3.84	19	3.82	11	4.16	19
Q33. Analyze and interpret experimental data	4.00	14	3.95	19	3.82	11	4.05	19
Q34. Design component or system to meet needs	4.50	14	4.00	19	3.82	11	4.37	19
Q35. Function on multidisciplinary team	4.21	14	4.58	19	4.27	11	4.58	19
Q36. Identify, formulate, solve technical problems	4.36	14	4.11	19	4.00	11	4.47	19
Q37. Communicate technical matters in writing	4.21	14	3.95	19	3.82	11	4.21	19
Q38. Communicate technical matters orally	4.29	14	4.11	19	4.09	11	4.00	19
Q39. Understand professional, ethical responsibilities	4.43	14	4.26	19	4.00	11	4.53	19
Q40. Understand contemporary issues facing society	4.00	14	3.53	19	3.82	11	4.11	19
Q41. Use modern tools and technology	4.50	14	3.95	19	3.91	11	4.47	19
Q42. Enter the workplace	4.21	14	4.00	19	3.91	11	4.53	19
Q43. Continue learning	4.64	14	4.26	19	3.91	11	4.63	19

Other

Scale: 1=Strongly Disagree; 5=Strongly Agree

Q44. Recommend major program to others	4.54	13	4.32	19	4.18	11	4.83	18
--	------	----	------	----	------	----	------	----

6.0 Conclusions

Graduates express a high degree of satisfaction with their educational experience at Chico State, with noted exceptions, and feel well prepared in a variety of areas. The overall high level of satisfaction with their education, summarized in Table 4.1, is also reflected in the response to Question 44: “I would recommend my major program to others” with scores ranging from “1 = Strongly Disagree” to “5 = Strongly Agree,” as shown in Tables 5.1 through 5.7. While the mean response for the College for 2004-2005 was high (3.98 out of 5.0), there has been some slippage from the 2003-2004 mean of 4.22. There is also significant variation among different majors in their desire to recommend the program to others:

- CIVL majors expressed an exceptional tendency to recommend the program with a mean of 4.92
- MFGT majors expressed a similarly high mean of 4.83
- CMGT majors also expressed high satisfaction with a mean of 4.66
- CMPE majors expressed the lowest recommendation rate of 3.0
- CMPE, MECH, MECA and to some degree CSCI majors tendency to recommend the programs all showed some decline from previous years

The trend towards more or less satisfaction with their education and their experience that is captured in their responses to Question 44 mirror the trends shown in Questions 29 (Overall quality of your education) and Question 30 (Overall experience at Chico State) in Tables 4.2 through 4.7. Programs with declining satisfaction should reflect on possible causes and suggest a course of action to improve program satisfaction among graduates.

Appendix A - ECC Senior Exit Survey Instrument

Appendix B - Supplemental Major Specific Questions

- CIVL
- CSCI
- MECH and MECA
- MFGT

Appendix C - Overall Survey Responses

Appendix D - Survey Responses by Major

Appendix E - Supplemental Question Responses

- CIVL
- CSCI
- MECH and MECA
- MFGT

Appendix F - Educational Satisfaction Question Responses – Summary
Statistics

Appendix G - Program Outcome Question Responses – Summary Statistics