

CAREER SERVICES / COLLEGE OF BUSINESS
PRELIMINARY REPORT 2009
INDUSTRIAL TECHNOLOGY

PROJECT BACKGROUND

Career Services has collaborated with the Orfalea College of Business (OCOB) to assess the quality of Cal Poly graduates and student learning outcomes from an industry perspective. Career Services worked with the college to design an instrument that would meet the specific needs of the concentration areas while supporting accreditation and program review efforts. Assessment efforts were conducted during in 2003-04 and 2005-07. Current efforts include assessing academic year 2008-09.

The Industrial Technology Department was scheduled for a program review in Winter Quarter 2009. In support of the program review, a preliminary report was completed on IT surveys completed thus far. This report reflects the finding to date.

OBJECTIVES

The following objectives were established for this report:

1. Quality of Graduates
Measure the quality and industry readiness of industrial technology graduates.
2. Student Learning Outcomes
Measure the skills and competencies of industrial technology graduates.
3. Other Data
Measure the personal qualities and educational experiences employer's value from industrial technology graduates.

PROGRAM DESIGN

Career Services collaborated with the Orfalea College of Business to develop an employer survey that was tailored to meet the unique and specific needs of the business programs. The survey was broken into two sections as indicated below:

Section 1: Quality of Graduates

Graduate Quality	Satisfied with the overall quality of IT graduates
Industry Readiness	Able to make a positive contribution to the work place with minimum supervision

Section 2: Student Learning Outcomes

Business Fundamentals	Demonstrate breadth of knowledge and skill in general business fundamentals
Business Discipline	Demonstrate depth of knowledge, skill, and perspectives within their selected, specific business discipline
Ethics	Recognize the ethical dimensions of business decisions

Societal Context	Recognize the wider responsibilities of business organizations for societal level outcomes above and beyond firm level profit or loss
Problem Solving	Able to generate innovative solutions to business problems that are supported by appropriate data analysis and evaluation of alternatives
Diversity	Understand diverse perspectives and generate solutions that incorporate them
Writing	Demonstrate effective writing skills
Communication	Demonstrate effective speaking skills
Leadership	Demonstrate effective participation in leadership
Team Work	Demonstrate effective participation in teams
Life-Long Learning	Engage in continuous education and keep current within the field

Refer to Appendix A for the survey form.

STUDY PROFILE

The employers who participated in this survey have recruited and hired Cal Poly graduates through the on-campus interview program and job fairs. Surveys were collected from July 1, 2008 through January 30, 2009. The surveys were completed by hiring managers, supervisors and human resources representatives. The following eighteen companies participated:

EMPLOYERS	IT
Amgen	1
Accenture	1
AMCC	1
Barnabas Development Group	1
Bechtel	1
Comtek	1
KPMG	1
Lansmont Corporation	1
Life Technology	1
Miasole	1
Morning Star Packing Company	1
PG&E	1
Pratt & Whitney Rocketdyne	1
Rantec Power Systems	1
Siemens Energy & Automation	1
T. J. Cross Engineers	1
Triage Consulting Group	1
Westpak, Inc	1
TOTAL EMPLOYERS	18

PROJECT FINDINGS

1. QUALITY & INDUSTRY READINESS OF GRADUATES

OBJECTIVE: Measure the quality and industry readiness of industrial technology graduates.

METHODOLOGY: Surveys were completed by employers to evaluate industrial technology graduates using a 5-point scale (*1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree*).

FINDINGS: The following chart reports the scale score averages on each of the two categories: quality of graduates and industry readiness. It also provides a breakdown or percentage of responses on each of the scale score categories.

Employers reported the following findings:

College of Business Industrial Technology	Strongly Agree	Disagree	Neutral	Agree	Strongly Agree	Scale Score
Scale Scores	1	2	3	4	5	Average
Overall Quality	0%	0%	12%	59%	29%	4.18
Industry Readiness	6%	0%	6%	71%	18%	3.94

Employers agreed and strongly agreed that they are satisfied with the quality of industrial technology graduates with an overall scale score average of 4.18. Employers also agreed or strongly agreed that IT graduates are industry ready with an overall scale score average of 3.94.

2. STUDENT LEARNING OUTCOMES

OBJECTIVE: Measure the success of skills and competencies of industrial technology graduates.

METHODOLOGY: Surveys were completed by employers to measure industrial technology graduates using a 5-point scale (*1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree*).

FINDINGS: The following chart reports the scale score average on each of the eleven skills and competencies: business fundamentals, business discipline, ethics, societal context, problem solving, diversity, writing, communication, leadership team work and life-long learning (Column A). The skills and competencies are list in descending order. It also provides a breakdown or percentage of responses into each of the scale score categories (1 – 5).

The chart also reports the importance employer place on the skills and competencies (Column B). This provides the academic colleges with employer feedback on what industry values in graduates.

						Column A	Column B
College of Business INDUSTRIAL TECHNOLOGY	Strongly Agree	Disagree	Neutral	Agree	Strongly Agree	Scale Score	Employer Importance
Scale Scores	1	2	3	4	5	Average	Average
Team Work	0%	0%	6%	47%	47%	4.41	4.65
Problem Solving	0%	0%	0%	63%	38%	4.38	4.47
Ethics	0%	0%	12%	41%	47%	4.35	4.65
Communication	0%	6%	12%	71%	12%	3.88	4.53
Life-Long Learning	0%	6%	31%	44%	19%	3.75	3.88
Business Fundamentals	0%	0%	28%	72%	0%	3.72	3.47
Business Discipline	0%	6%	29%	53%	12%	3.71	3.88
Writing	0%	6%	29%	53%	12%	3.71	3.82
Leadership	0%	0%	29%	71%	0%	3.71	4.18
Societal Context	6%	6%	29%	47%	12%	3.53	3.47
Diversity	6%	0%	47%	35%	12%	3.47	3.69

Employers reported skills and competencies related to team work, problem solving, and ethics scored the highest with scale score average above 4.0. Skills and competencies related to societal context and diversity are lowest, indicating room for improvement.

Employers reported that the skills and competencies they value the most are team work, ethics, problems solving, communication, and leadership. Team work, problem solving and ethics mirror the skills that employers indicate that IT graduates possess.

Although the scale score averages meet or exceed standards in all the learning outcome areas, it is important to note the breakdown of responses, specifically in the neutral areas where there is less agreement. Further assessment may be necessary to identify specific reasons why there is less agreement. The purpose of the assessment process is to provide useful information from an industry perspective to evaluate the academic programs, strengthen the curriculum, support accreditation and assist the university in assessing institutional effectiveness and performance.

3. OTHER DATA

OBJECTIVE: Measure the personal qualities and educational experiences employer’s value from industrial technology graduates.

METHODOLOGY: Surveys were completed by employers to measure industrial technology graduates using a 5-point scale (*1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree*).

FINDINGS: The following chart reports the scale score averages on the personal qualities that employer seek in new graduates. The personal qualities are listed in order of importance.

PERSONAL QUALITIES		Score
1	Communication Skills	12
2	Attitude	10
3	Team Work/Team Player	10
4	Technical Skills/Knowledge	10
5	Problem Solving Skills	9
6	Leadership Skills/Potential	8
7	Work Ethic	8
8	Adaptability	7
9	Critical Thinking	7
10	Enthusiasm/Energy	7
11	Honesty/Integrity	7
12	Motivation/Drive	6
13	Commitment	5
14	Interpersonal/Social Skills	4
15	Analytical	2
16	Confidence	2
17	Independent Worker	2
18	Work Collaboratively	2
19	Public Speaking	1
20	Creative/Innovative	0
21	Other	0

Personal qualities related to communication skills, attitude, team work/team player, technical skills/knowledge and problem solving scored the highest.

FINDINGS: The following chart reports the scale score averages on each of the educational experiences that employer value the most in new graduates. The educational experiences are listed in order of importance.

EDUCATIONAL EXPERIENCES		Scores
1	Internship/Co-op	15
2	Team Projects	11
3	Leadership Experience	10
4	Club/Organization Involvement	9
5	Inter-disciplinary Project	8
6	Senior Project	6
7	Class Project	5
8	Community Service Project	3
9	Travel Experience	3
10	Volunteer Work	3
11	Study Abroad	1
12	Other	0

Experience related to internship/Co-op, team projects, leadership, and club/organization involvements scored the highest.

This information can be shared with students in helping them understand what employers are looking for when hiring industrial technology graduates. Students who

are able to integrate these personal qualities and incorporate educational experiences will be more competitive.

SUMMARY

These are preliminary findings of the 2008-09 Employer Survey Report and support the program review process for the Industrial Technology Department. Data was compiled on the quality and industry readiness of IT graduates. Overall, employers reported they were satisfied with the quality of IT graduates and that IT graduates were industry ready.

Data was also compiled on the skills and competencies of IT graduates. Employers reported that the skills and competencies related to team work, problem solving and ethics scored the highest. Skills and competencies related to societal context and diversity were the lowest. Employers also reported the skills and competencies they value the most were team work, problem solving, ethics, communication, and leadership.

In addition, employers reported the personal qualities they value the most in graduates are communication skills, attitude, team work, technical knowledge, problem solving skills, leadership skills, and ethics. The educational experiences they value the most are internship/Co-op, team projects, leadership experience and involvement in clubs/organizations. Students who possess these personal qualities and educational experience will be more competitive when securing a job after graduation.

The findings of this report need to be processed and shared with the Orfalea College of Business, Dean's Office, Industrial Technology Department, faculty, curriculum committee and university community. Discussions will ensure that employer feedback is integrated within the decision-making process. Furthermore, the intent of this assessment process is to assist with accreditation, program review and to strengthen the academic program.